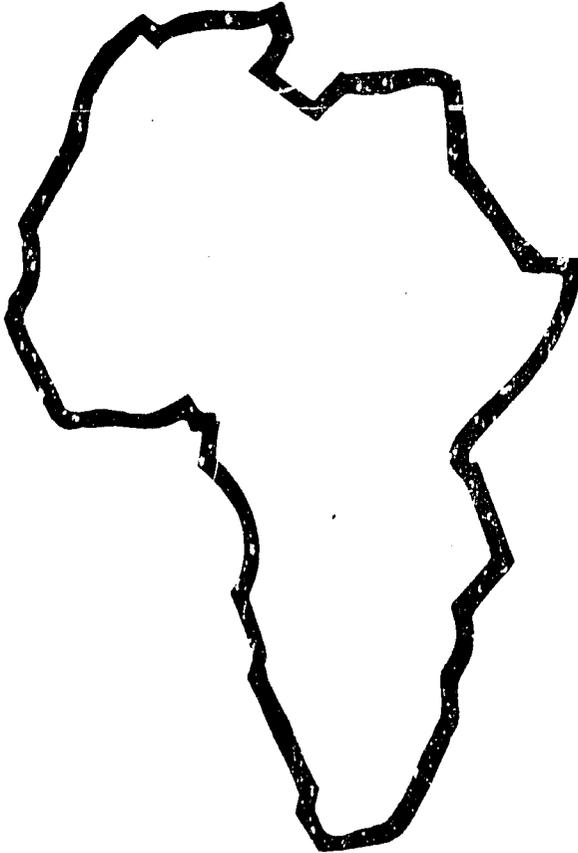


PA-ABE-653

SECOND INTERNATIONAL SYMPOSIUM



October 7-9, 1987
Castel dell'Ovo, Naples, Italy

FINAL PROGRAM
and
ABSTRACTS VOLUME

FA-1083-100

**Second International Symposium on
AIDS AND ASSOCIATED CANCERS IN AFRICA**

**October 7-9, 1987
Castel dell'Ovo, Naples, Italy**

**FINAL PROGRAM
and
ABSTRACTS VOLUME**

**Second International Symposium on
AIDS AND ASSOCIATED CANCERS IN AFRICA**

**October 7-9, 1987
Castel dell'Ovo, Naples, Italy**

The purpose of the symposium is to review all current aspects of the uprise of AIDS and prospected increase of associated cancers in African countries. Particular interest is devoted to **promote and stimulate cooperative researches** resulting in scientific, technical and didactical benefits of participants, especially from African regions.

Under the Patronage of the: National Cancer Institute
"Fondazione Pascale", Naples, Italy

Italian Ministry of Health

Italian Ministry of Foreign Affairs

Assessorato alla Sanità of
Regione Campania

Italian Association of Cancer Research

Italian League against Cancer

National Association against AIDS

and the **World Health Organization**

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Acknowledgements

The Second International Symposium on AIDS and Associated Cancers in Africa acknowledges the generosity and assistance of the following Ministries, Foundations, Institutions and Industries:

NATIONAL CANCER INSTITUTE
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ITALIAN MINISTRY OF HEALTH

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as well as

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Azienda Autonoma Soggiorno e Turismo, Naples

SCIENTIFIC INFORMATIONS

Scientific Session

All scientific session will be held on the First Floor Level in the AUDITORIUM - HALL A. **The official language of the symposium is English.** Presentations of the sessions will be simultaneously translated to **French** and if needed from French to English.

Video Overflow Room

In order to accommodate the large number of registrants for the Symposium, we will be showing live video of all sessions in the VIDEO OVERFLOW ROOM - HALL B.

Slides and Projection

Standard size of slides: 5x5 cm (single projection)
Speakers are kindly requested to check their slides at the SLIDE CENTER, located near the Auditorium, **at least 1 hour before their session.** They are also requested to collect their slides from the **Slide Center** immediately after the end of the session.

Poster Presentations

Presenting authors are kindly requested to display their posters in the POSTER SESSION AREA on the board marked with their number, either on Thursday (Session TH), October 8 or Friday (Session F), October 9 between 8:00 a.m. - 9:00 a.m.

The hours for viewing are: 10:00 a.m. - 5:00 p.m.
Authors should be at their posters from 1:00 p.m. - 2:30 p.m. to discuss their presentations and answer questions. Moreover, authors need to remove their poster by 5:00 p.m.

A complete title listing and presentation schedule can be found in this program.

Proceedings

The Proceedings of the Symposium will be published by S. KARGER, AG (Switzerland). Manuscripts of oral presentations need to be brought to the Scientific Secretariat.

Faculty Room

On the Second Floor Level, above the Secretariat, lunch will be served for the Faculty.

Conference Room

Available for small meetings; must be arranged with the Scientific Secretariat.

GENERAL INFORMATIONS

Place of the Symposium

Castel dell'Ovo (11th century) - The **Ovo Castle** towers over the **Borgo Marinaro** (fishermen's village) on the sea shore at Santa Lucia (heart of Naples). Its turrets and bastions were added over the years to the original citadel of the time of the Normans, which itself was built on the remains of a Roman Villa. The castle has been the centre of many events in the history of Naples.

Registration Fees

Full Registration	US \$ 180.000 - It. £ 235.000
Student Registration	US \$ 100.000 - It. £ 130.000

Payment of the:

Full and Student Registration include one copy of the Final Program - Abstracts Volume, one invitation to the Opening Party on Wednesday, October 7 on the UPPER TERRACES of Castel dell'Ovo (Second Floor Level), entrance to all scientific sessions and exhibits, as well as the use of audio-visual equipment for simultaneous translation.

Secretariat: Registration Area - Message Boards

The Symposium Registration Area is located on the First Floor Level and will be open during the following hours:

Wednesday, October 7	2:00 p.m. - 8:00 p.m.
Thursday, October 8	7:00 a.m. - 8:00 p.m.
Friday, October 9	7:00 a.m. - 8:00 p.m.

The symposium secretariat will be at disposal of the participants for the following services:

- Registration
- Informations
- Scientific Program
- Certificates and Receipts
- Travel - Excursions
- Working Lunch Tickets

News Media - Press

All representatives of the news media **must register** (free of charge) for the Symposium at the Press Registration Desk News (Press) Media Registration includes one copy of the Final Program - Abstracts Volume. Facilities available consists of PRESS SUPPORT AREA, PRESS CONFERENCE ROOM, and VIDEO ROOM - HALL C, where we will be showing live video of all sessions.

Badges

Badges should be worn at all times and are required for admittance to all sessions and social events.

Exhibits

The Symposium exhibits are located in the EXHIBITION AREA on the First Floor Level and on the Second Floor Level, which comprises a Hospitality Suite.

Luncheons

The Organization of the Symposium has arranged a catering service for working lunches. Tickets will be available in the Secretariat at a cost of US \$ 20.000 - It. £ 25.000. Lunch will be served on the UPPER TERRACES of the Castle. In case of rain staff personnel will indicate alternative locations.

Tours - Excursions

Excursions to Naples beautiful surrounding can be organized on individual level or as groups. Check at the Travel Desk in the Registration Area.

The III International Conference on AIDS AND ASSOCIATED CANCERS IN AFRICA

The Conference will be held in Arusha, Tanzania, September 14-16, 1988. For further information please contact:

Fred Mhalu, M.D.
Chairman - III International Conference on
AIDS AND ASSOCIATED CANCERS IN AFRICA
c/o Medical Association of Tanzania
P.O. Box 701
Dar es Salaam
TANZANIA

The premises of **Castel dell'Ovo** belong to the demesne of the State, and have been kindly granted from the **Intendenza di Finanza, Provveditorato alle OO.PP.** and **Soprintendenza Beni Ambientali ed Architettonici** of Naples.

FINAL SCIENTIFIC PROGRAM

WEDNESDAY, OCTOBER 7 - FRIDAY, OCTOBER 9, 1987

Oral Session 1 - 10

Wednesday, October 7

INAUGURATION OF THE SYMPOSIUM

6:00 p.m. OPENING OF THE SYMPOSIUM

G. Giraldo

Chairman of the Symposium
(National Cancer Institute, "Fondazione Pascale", Naples, Italy)

G.L. Monekosso

Director
(Regional Office for Africa, World Health Organization, Brazzaville, Congo)

WELCOME ADDRESSES

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G.G. Giordano

Scientific Director
(National Cancer Institute "Fondazione Pascale", Naples)

G. Venosta

President
(Italian Association of Cancer Research, Milan)

G. D'Errico

President
(National League against Cancer, Section Campania, Naples)

The Symposium is dedicated to the late **Dr. F. Assaad** and **Dr. R. Cerra**

Thursday, October 8

SESSION 1: PLENARY SESSION I

Chairmen: **B. Kapita** (*Kinshasa, Zaire*)
J.L. Ziegler (*San Francisco, CA, USA*)

- 8:00 a.m. 1. **OVERVIEW OF THE GLOBAL AIDS EPIDEMIC**
J.M. Mann
(*World Health Organization, Geneva, Switzerland*)
- 8:30 a.m. 2. **AIDS IN THE UNITED STATES: UPDATES, IMPLICATIONS, AND PERSPECTIVES**
J.R. Allen
(*Centers for Infectious Diseases, CDC, Atlanta, GA, USA*)
- 8:50 a.m. 3. **AIDS IN AFRICA**
B. Kapita
(*Kinshasa, Zaire*)
- 9:10 a.m. 4. **DIAGNOSIS OF HIV INFECTION IN AFRICA**
A.J. Georges, J.L. Lesbordes, P.M.V. Martin, M.C. Georges-Courbot
(*Bangui, Central African Republic*)
- 9:30 a.m. Break

Thursday, October 8

SESSION 2: EPIDEMIOLOGY OF HIV INFECTION/AIDS IN DIFFERENT PARTS OF AFRICA I

Chairmen: **Md-R. Gharbi** (*Tunis, Tunisia*)
R.J. Biggar (*Bethesda, MD, USA*)

- 9:45 a.m. 1. **AIDS EPIDEMIC IN UGANDA**
I.S. Okware
(*Entebbe, Uganda*)
- 10:00 a.m. 2. **ADULT AND PEDIATRIC AIDS AND AIDS RELATED SYNDROME IN RWANDA**
A. Ndikuyeze, G. Busingo, A. Ntilivamunda
(*Butare and Kigali, Rwanda*)
- 10:15 a.m. 3. **THE EPIDEMIOLOGY OF HIV INFECTION IN ZAIRE**
B. N'Galy
(*Kinshasa, Zaire*)
- 10:30 a.m. 4. **SEROEPIDEMIOLOGIC CONSIDERATIONS ON THE DETECTION OF ANTI HIV1 ANTIBODIES IN HOSPITALIZED PATIENTS AND BLOOD DONORS FROM DIFFERENT MEDICAL CENTERS IN BRAZZAVILLE**
F. Yala, M. Biendo, M.C. Samba, P. M'Pele
(*Brazzaville, Congo*)
- 10:45 a.m. 5. **AIDS EPIDEMIC IN CENTRAL AFRICAN REPUBLIC**
B. Lala
(*Bangui, Central African Republic*)
- 11:00 a.m. Discussion
- 11:15 a.m. Coffee Break

Thursday, October 8

SESSION 3: CLINICAL MANIFESTATIONS OF HIV INFECTION

Chairmen: **S.K. Kyalwazi** (*Kampala, Uganda*)
M.S. Gottlieb (*Los Angeles, CA, USA*)

- 11:30 a.m. 1. **CLINICAL MANIFESTATIONS OF LAV TYPE 2 INFECTION**
A.G. Saimot, S. Matheron, P.M. Girard, M.A. Rey, F. Brun-Vézinet,
J. Leibowitch, J.P. Coulaud
(*Paris, France*)
- 11:45 a.m. 2. **SOME CLINICAL ASPECTS OF AIDS IN UGANDA**
R.D. Mugerwa et al., G. Giraldo et al.
(*Kampala, Uganda; Naples, Italy*)
- 12:00 noon 3. **CLINICAL PRESENTATION OF SYMPTOMATIC PAEDIATRIC HIV INFECTION IN ZIMBABWE**
F.K. Nkrumah, R-G. Choto, J.C. Emmanuel, R. Kumar
(*Harare, Zimbabwe*)
- 12:15 p.m. 4. **CLINICAL ASPECTS OF AIDS IN ZAIRE**
W. Odio
(*Kinshasa, Zaire*)
- 12:30 p.m. 5. **PROSPECTIVE STUDY OF CLINICAL MANIFESTATIONS AND OPPORTUNISTIC INFECTIONS IN PATIENTS WITH ACQUIRED IMMUNODEFICIENCY SYNDROME AT KENYATTA NATIONAL HOSPITAL IN NAIROBI, KENYA**
D.M. Owili
(*Nairobi, Kenya*)
- 12:45 p.m. Discussion
- 1:00 p.m. Lunch

Thursday, October 8

SESSION 4: EPIDEMIOLOGY OF HIV INFECTION/AIDS IN DIFFERENT PARTS OF AFRICA II

Chairmen: **D. Zagury** (*Paris, France*)
R.D. Mugerwa (*Kampala, Uganda*)

- 2:30 p.m. 1. **SOME ASPECTS ON THE EPIDEMIOLOGY OF AIDS IN TANZANIA**
F.S. Mhalu, A.U. Dahoma, E.P. Mbeni, S.Y. Maselle, U. Bredberg Raden, G. Biberfeld
(*Dar es Salaam, Tanzania; Stockholm, Sweden*)
- 2:45 p.m. 2. **HIV ANTIBODY PREVALENCE IN BLOOD DONORS AND BLOOD RECIPIENTS IN YAOUNDE - CAMEROUN**
L. Kaptué, L. Zekeng, J.P. Tagu, J. Tchuela, M. Monny-Lobe, G. Garrigue, J.P. Durand
(*Yaounde, Cameroun*)
- 3:00 p.m. 3. **CLINICAL CORRELATES OF RETROVIRAL (RTV) SEROLOGICAL PATTERNS IN NIGERIANS**
C.K.O. Williams, C. Saxinger, G.A. Alabi, A. Levin, S. Alexander, A. Bodner, R.C. Gallo, W.A. Blattner
(*Ibadan, Nigeria; Bethesda, MD, USA*)
- 3:15 p.m. 4. **HIV INFECTION IN GHANA**
A.R. Neequaye, G. Ankra-Badu, J.A. Mingle, et al.
(*Accra, Ghana*)
- 3:30 p.m. 5. **HIV-1 AND 2 INFECTIONS IN IVORY COAST, WEST AFRICA: EPIDEMIOLOGY AND CLINICAL ASPECTS**
S.A. Ouattara, Groupe de Travail sur le SIDA, J. Chotard, M.A. Rey, F. Brun-Vézinet, G. De Thé
(*Abidjan, Côte d'Ivoire; Lyon and Paris, France*)
- 3:45 p.m. 6. **HIV AND RELATED VIRUSES IN SENEGAL**
S. M'Boup, P.J. Kanki, F. Barin, I. N'Doye, F. Denis, D. Counillon, D. Ricard, C. Boye, A. Gaye, J-L. Sankale, J-L. Romet-Lemonne, R. Marlink, A. Sow, M. Essex
(*Dakar-Fann, Senegal; Boston, MA, USA; Tours and Limoges, France*)
- 4:00 p.m. 7. **ANTIBODY PREVALENCE TO HIV IN TUNISIA**
Md-R. Gharbi, E. Beth-Giraldo, B. Gherib, Z. Fecih, A. Slim, G. Girello
(*Tunis, Tunisia; Naples, Italy*)
- 4:15 p.m. Discussion
- 4:30 p.m. Coffee Break

Thursday, October 8

**SESSION 5: NATURAL HISTORY OF HIV INFECTION - CLINICAL ASPECTS -
KAPOSI'S SARCOMA**

Chairmen: **F. Barrè-Sinoussi** (*Paris, France*)
A.C. Bayley (*Lusaka, Zambia*)

- 4:45 p.m. 1. **NATURAL HISTORY OF HIV INFECTION IN AFRICAN PATIENTS**
S. De Wit, P. Hermans, D. Roth, Y. Van Laethem, G. Zissis,
N. Clumeck
(*Brussels, Belgium*)
- 5:00 p.m. 2. **PATHOLOGY OF AFRICAN AIDS**
S. Lucas, N. Sewankambo, A. Nambuya, P. Nsubuga
(*London, UK; Kampala, Uganda*)
- 5:15 p.m. 3. **NEUROLOGIC MANIFESTATIONS OF HIV IN ZAMBIAN PATIENTS
WITH AIDS/HIV**
M. Mukunyandela, R. Mvendapole
(*Ndola, Zambia*)
- 5:30 p.m. 4. **A GENERAL SURVEY ON KAPOSI'S SARCOMA**
Abou Baker
(*World Health Organization, Brazzaville, Congo*)
- 5:45 p.m. 5. **KAPOSI'S SARCOMA IN AFRICA**
A.C. Bayley
(*Lusaka, Zambia*)
- 6:00 p.m. 6. **KAPOSI'S SARCOMA ASSOCIATED TRANSFORMING SEQUENCES**
F.M. Buonaguro, D.A. Galloway, E. Beth-Giraldo, G. Giraldo,
J.K. McDougall
(*Naples, Italy; Seattle, WA, USA*)
- 6:15 p.m. 7. **MOLECULAR CHARACTERIZATION OF KAPOSI'S SARCOMA AND
VASCULAR ENDOTHELIUM**
B. Ensoli, L. Larson, S. Nakamura, Z. Salahuddin, B. Beaver,
P. Biberfeld, F. Wong-Staal, R.C. Gallo
(*Bethesda, MD, USA; Stockholm, Sweden*)
- 6:30 p.m. 8. **BK VIRUS DNA IN KAPOSI'S SARCOMA**
G. Barbanti-Brodano, M. Fagnani, L. Paolini, E. Beth-Giraldo,
G. Giraldo, A. Corallini
(*Ferrara and Naples, Italy*)
- 6:40 p.m. Discussion
- 6:50 p.m. Break

Thursday, October 8

SESSION 6: LABORATORY DIAGNOSIS OF HIV INFECTION IN AFRICA

7:00-8:00 p.m. Roundtable Discussion

Panel Moderator:

F. Brun-Vézinet, Hôpital Claude Bernard
(Paris, France)

Panel Members:

K. Mulanga, Mama Yemo Hospital
(Kinshasa, Zaire)

T.C. Quinn, Johns Hopkins Hospital
(Baltimore, MD, USA)

R. Mwendapole, Tropical Research Centre
(Ndola, Zambia)

J. Scheffel, Abbott Laboratories
(Chicago, IL, USA)

J.P. Galvin, Du Pont de Nemours
(Wilmington, DE, USA)

C. Roberts, Wellcome Diagnostics
(Temple Hill Dartford, UK)

Friday, October 9

SESSION 7: PLENARY SESSION II

Chairmen: **P.M. Tukei** (*Nairobi, Kenya*)
J.K. McDougall (*Seattle, WA, USA*)

- 8:00 a.m. 1. **HIV IN AFRICA**
L. Montagnier, M. Alizon, P. Sonigo, M. Guyader, M. Emermann
(*Paris, France*)
- 8:30 a.m. 2. **HTLV FAMILY - AIDS AND CANCERS**
R.C. Gallo
(*Bethesda, MD, USA*)
- 9:00 a.m. 3. **THE BIOLOGY OF HIV-1 AND HIV-2 IN AFRICA**
P. Kanki, S. M'Boup, F. Barin, F. Denis, R. Marlink,
J-L. Romet-Lemonne, M. Essex
(*Boston, MA, USA; Dakar, Senegal; Tours and Limoges, France*)
- 9:30 a.m. 4. **THE IMMUNOBIOLOGY OF THE EXTERNAL ENVELOPE VIRAL GLYCOPROTEIN**
T.J. Matthews, S.D. Putney, J.R. Rusche, R.C. Gallo, **D.P. Bolognesi**
(*Durham, NC; Boston, MA, and Bethesda, MD, USA*)
- 10:00 a.m. Coffee Break

Friday, October 9

SESSION 8: VIROLOGY / ONCOLOGY

Chairmen: **S. M'Boup** (*Dakar, Senegal*)

P. Kanki (*Boston, MA, USA*)

- 10:15 a.m. 1. **HTLV-III/LAV INFECTION IN CENTRAL AFRICA**
D. Zagury, K. Lurhuma, R.C. Gallo
(*Paris, France; Kinshasa, Zaire; Bethesda, MD, USA*)
- 10:30 a.m. 2. **MOLECULAR CLONING AND NUCLEOTIDE SEQUENCE OF A HIGHLY CYTOPATHIC STRAIN OF HUMAN IMMUNODEFICIENCY VIRUS**
B. Spire, V. Zachar, F. Barré-Sinoussi, F. Galibert, J.C. Chermann, A. Hampe
(*Paris, France; Bratislava, Czechoslovakia*)
- 10:45 a.m. 3. **COMPARATIVE ANALYSES OF THE STRUCTURAL AND REGULATORY GENES OF STLV-III AND HUMAN IMMUNODEFICIENCY VIRUSES**
C. Gurgo, S. Colombini-Hatch, H.G. Guo, E. Collalti, G. Franchini, M. Reitz, F. Wong-Staal, R.C. Gallo
(*Naples, Italy; Bethesda, MD, USA*)
- 11:00 a.m. 4. **NEUTRALIZATION OF AFRICAN HIV-1 AND HIV-2**
J.N. Weber, P.R. Clapham, D. Whitby, R.S. Tedder, R.A. Weiss
(*London, UK*)
- 11:15 a.m. Discussion
- 11:30 a.m. 5. **VALUE OF A COMPARATIVE GEOGRAPHICAL APPROACH OF HIV INFECTION AND OTHER VIRUSES AS CO-FACTORS IN DISEASES ASSOCIATED WITH HIVs**
G. de Thé, A. Ouattara, M. Makuwa, A. Gessain, G. Brubaker
(*Lyon, France; Abidjan, Ivory Coast; Brazzaville, Congo; Musoma, Tanzania*)
- 11:50 a.m. 6. **HIV AND HCMV IN IMMUNODEFICIENCY AND CANCERS**
J.K. McDougall
(*Seattle, WA, USA*)
- 12:10 p.m. 7. **PAPILLOMAVIRUSES AND HUMAN CANCER**
L. Gissmann
(*Heidelberg, Fed. Rep. Germany*)
- 12:30 p.m. 8. **RELATIONSHIP OF HIV TO HEPATITIS VIRUSES**
F. Barin, F. Dubois, F. Denis, G. Leonard, M. Mounier, A. Sangare, G. Gershy-Damet, E. Petat, P. Kocheleff, P. Kadende, A. Goudeau
(*Tours and Limoges, France; Abidjan, Ivory Coast; Bujumbura, Burundi*)
- 12:50 p.m. Discussion
- 1:00 p.m. Lunch

Friday, October 9

SESSION 9: PREVENTION AND CONTROL / CONGENITAL TRANSMISSION / RISK FACTORS

Chairmen: **N. Clumeck** (*Brussels, Belgium*)
E.N. Ngugi (*Nairobi, Kenya*)

- 2:30 p.m. 1. **THE GLOBAL AIDS PREVENTION AND CONTROL PROGRAMME**
J.M. Mann
(*World Health Organization, Geneva, Switzerland*)
- 3:00 p.m. 2. **CONGENITAL TRANSMISSION OF HIV IN NAIROBI, KENYA**
J.K. Kreiss, M. Braddick, F.A. Plummer, J. Embree, T. Quinn, P. Piot, G. Vercauteren, J.O. Ndinya-Achola, N. Kiviat, R. Coombs, L. Corey; K.K. Holmes, et al.
(*Seattle, WA, and Bethesda, MD, USA; Nairobi, Kenya; London, UK; Winnipeg, Canada; Antwerp, Belgium*)
- 3:15 p.m. 3. **RISK FACTORS FOR HIV INFECTION IN A COHORT OF EAST AFRICAN PROSTITUTES**
F.A. Plummer, J.N. Simonsen, D.W. Cameron, J.O. Ndinya-Achola, P. Piot, E.N. Ngugi
(*Nairobi, Kenya; Winnipeg, Canada; Antwerp, Belgium*)
- 3:30 p.m. 4. **EFFECT OF AN AIDS EDUCATION PROGRAM ON INCREASING CONDOM USE IN A COHORT OF NAIROBI PROSTITUTES**
E.N. Ngugi, F.A. Plummer, D.W. Cameron, M. Bosire, J.O. Ndinya Achola, et al.
(*Nairobi, Kenya; Winnipeg, Canada*)
- 3:45 p.m. 5. **WHICH LESSON CAN WE LEARN FROM AIDS IN AFRICA**
N. Clumeck
(*Brussels, Belgium*)
- 4:00 p.m. 6. **SOCIAL AND ECONOMIC DETERMINANTS OF THE AIDS EPIDEMIC IN CENTRAL AFRICA**
B. Standaert, P. Kocheleff
(*Bujumbura, Burundi-Belgium Cooperation*)
- 4:15 p.m. Discussion
- 4:30 p.m. Coffee Break

Friday, October 9

SESSION 10: PLENARY SESSION III

Chairmen: **G. de Thé** (*Lyon, France*)
G. Beausoleil (*Brazzaville, Congo*)

- 5:00 p.m. 1. **COOPERATIVE ACTIVITIES ON AIDS IN AFRICA**
G. Beausoleil
(*World Health Organization, Brazzaville, Congo*)
- 5:15 p.m. 2. **THE ROLE OF NIH IN THE STUDY OF AIDS IN THE UNITED STATES AND AFRICA**
R.J. Biggar
(*Bethesda, MD, USA*)
- 5:30 p.m. 3. **COOPERATIVE ACTIVITIES OF CDC ON AIDS**
W. Heyward
(*Atlanta, GA, USA*)
- 5:45 p.m. 4. **AIDS SURVEILLANCE IN SIX COUNTRIES OF CENTRAL AFRICA: COORDINATION OF A SUBREGIONAL PROGRAM**
M. Merlin, R. Josse, E. Delaporte, M.C. Georges, J.P. Durand, C. Hengy, D. Kouka-Bemba, L. Kaptué, J. Limbassa, P.M.M. Yankalbé, J. Abandja, A. Dupont
(*OCEAC, Yaoundé-Cameroon; Inst. Pasteur, Cameroon and Central African Republic (CAR); CIRMF, Gabon; Cameroon, CAR, Chad and Gabon*)
- 6:00 p.m. 5. **THE EEC/ACP AIDS CONTROL PROGRAMME**
M. Baraldini, L. Fransen
(*AIDS TASK FORCE, Commission of the European Communities, Brussels, Belgium*)
- 6:15 p.m. 6. **AIDS PROBLEMS IN AFRICA: A SUGGESTED STRATEGY FOR INTERNATIONAL SUPPORT**
R. Guerra, **G. Bertolaso**, A. Aloï, V. Lucchetti, M. di Gennaro
(*Health Section, Direzione Generale Cooperazione Sviluppo, Ministry of Foreign Affairs, Rome, Italy*)
- 6:30 p.m. Discussion
- 6:45-7:00 p.m. **CLOSING REMARKS**
G. Giraldo (*Naples, Italy*)
M. Clumeck (*Brussels, Belgium*)
F.S. Mhalu (*Dar es Salaam, Tanzania*)

Poster Session : Thursday (TH) and Friday (F)

- TH.1 INITIAL OBSERVATIONS ON THE NATURAL HISTORY OF HIV-2 INFECTION
R. Marlink, D. Ricard, J.-L. Romet-Lemonne, I. N'Doye, T. Siby, S. M'Boup, P. Kanki, M. Essex (Harvard School of Public Health, Boston, MA, USA; University of Dakar and National Center for Sexually Transmitted Diseases, Dakar, Senegal)
- TH.2 REACTIVITY TO RECOMBINANT CORE AND ENVELOPE PROTEINS OF HIV-1 OF AFRICAN SÉRA WITH HIV-1 AND/OR HIV-2 SPECIFICITY
 G. Léonard, M. Mounier, M. Verdier, A. Sangaré, G. M. Gershy-Damet, S. M'Boup, D. Ricard, E. Petat, P. Kocheleff, F. Denis, F. Barin (CHU Dupuytren, Limoges; CHU Bretonneau, Tours, France; Institut Pasteur Abidjan, Côte d'Ivoire; Université de Dakar, Senegal; Université de Bujumbura, Burundi)
- TH.3 SEROLOGIC PROFILES OF HIV-2 POSITIVE SERA AND THEIR CROSS-REACTIVITY TO HIV-1 ANTIGENS
P.J. Kanki, F. Barin, S. M'Boup, M. Essex (Harvard School of Public Health, Boston, MA, USA; CHRU Bretonneau and UER Pharmaceutical Sciences, Tours, France; Dakar University, Dakar, Senegal)
- TH.4 HIV SEROPREVALENCE IN NOUAKCHOTT (ISLAMIC REPUBLIC OF MAURITANIA)
S. M'Boup, D. Ricard, P. Kanki, Y. Kane, L.O. Salem, M. M'Baye, A. Gaye, J.-L. Sankale, L. Sangare (Hôpital Le Dantec, Dakar-Fann, Senegal; Harvard School of Public Health, Boston, MA, USA; Sabah Hospital, Nouakchott, Mauritania)
- TH.5 EPIDEMIOLOGY AND CLINICAL EVALUATION OF PROSTITUTES EXPOSED TO HIV-2/HTLV-4 IN SENEGAL
R. Marlink, D. Ricard, J.-L. Romet-Lemonne, P. Kanki, M. Essex, T. Siby, S. M'Boup, et al. (Harvard School of Public Health, Boston, MA, USA; University of Dakar, Dakar, Senegal)
- TH.6 HIV-1 AND HIV-2 SEROPREVALENCE IN A HOSPITAL WORKER POPULATION. DAKAR, SENEGAL
 I. Sow, S. Lu, E. Coll. A. Sow, P. Kanki, M. Prince-David, S. M'Boup, J.-L. Romet-Lemonne (Hôpital Le Dantec and Hôpital Fann, Dakar-Fann, Senegal; Harvard School of Public Health, Boston, MA, USA)
- TH.7 PREVALENCE OF HIV-1 AND HIV-2 HTLV-4 IN THE SOUTH OF SENEGAL, IN CASAMANCE
D. Ricard, S. M'Boup, A. N'Doye, P. Kanki, M. Mounier, C. Boye (Hôpital Le Dantec, Dakar-Fann, Senegal; Harvard School of Public Health, Boston, MA, USA; Hôpital Dupuytren, Limoges, France)

- TH.8 PREVALENCE OF HIV-1 AND RELATED HUMAN RETROVIRUSES IN GUINEA-BISSAU, WEST AFRICA
D. Ricard, S. M'Boup, P. Kanki, A.C. Venancio, D.J. Mendes, C. Boye (Hôpital Le Dantec, Dakar-Fann, Senegal; Harvard School of Public Health, Boston, MA, USA; Bissau Hospital, Bissau, Guinea-Bissau)
- TH.9 PREVALENCE OF ANTIBODIES TO HIV-1 AND HIV-2 AMONG A HOSPITAL WORKER POPULATION IN GUINEA-BISSAU (WEST AFRICA)
A. Santos Pinto, W.F. Canas Ferreira, J. Champalimaud, K. Mansinho, C. Costa, P. Mendes, V. Furtado, S. Chamaret, L. Montagnier, J. Marques, L. Baptista, J. Brandao (Institute of Hygiene and Tropical Medicine, Lisbon, Portugal; Ministry of Health, Guinea-Bissau; Institute Pasteur, Paris, France)
- TH.10 PREVALENCE OF ANTIBODIES TO HIV-1 AND HIV-2 AMONG BLOOD DONORS IN GUINEA-BISSAU (WEST AFRICA)
W.F. Canas Ferreira, K. Mansinho, A. Santos Pinto, J. Champalimaud, J.L. Baptista, S. Chamaret, L. Montagnier, C. Costa, P. Mendes, V. Furtado, J. Brandao, B. Marques (Institute of Hygiene and Tropical Medicine, Lisbon, Portugal; Institute Pasteur, Paris, France; Ministry of Health, Guinea-Bissau)
- TH.11 THE EPIDEMIOLOGY OF AIDS IN WEST AFRICA (GUINEA-BISSAU)
W.F. Canas Ferreira, K. Mansinho, A. Santos Pinto, J. Champalimaud, C. Costa, J.L. Baptista Marques, J.L. Baptista, J. Brandao, V. Furtado, P. Mendes (Institute of Hygiene and Tropical Medicine, Lisbon, Portugal; Ministry of Health, Guinea-Bissau)
- TH.12 EPIDEMIOLOGY OF HIV-1 AND HIV-2 IN GUINEA-BISSAU (WEST AFRICA)
K. Mansinho, W.F. Canas Ferreira, A. Santos Pinto, J. Champalimaud, C. Costa, P. Mendes, V. Furtado, J.L. Baptista, J. Baptista Marques, J. Brandao, S. Chamaret, L. Montagnier (Institute of Hygiene and Tropical Medicine, Lisbon, Portugal; Ministry of Health, Guinea-Bissau; Institute Pasteur, Paris, France)
- TH.13 RETROSPECTIVE SEROEPIDEMIOLOGY OF AIDS VIRUS INFECTION IN GUINEA-BISSAU (WEST AFRICA) POPULATIONS
W.F. Canas Ferreira, A. Santos Pinto, A. Terrinha, C. Teixeira, C. Costa, V. Furtado, F. Saal, S. Sibidé, J. Los Geld, J. Peries (Institute of Hygiene and Tropical Medicine, Lisbon, Portugal; Ministry of Health, Guinea-Bissau; Hôpital Saint Louis, Paris, France)

- TH.14 HIV-1 AND HIV-2 SEROPREVALENCE IN CONAKRY, GUINEA
K. Kourouma, S. M'Boup, D. Ricard, P. Kanki, M. Diallo, J.L. Sankale, B. Diallo, C. Boye, R. Marlink, M. Essex (Conakry Hospital, Conakry, Guinea; Hôpital Le Dantec, Dakar-Fann, Senegal; Harvard School of Public Health, Boston, MA, USA)
- TH.15 SERO-EPIDEMIOLOGICAL STUDY OF HIV INFECTION IN GUINEA - CONAKRY
K. Kourouma, F. B. Diallo, P. Diallo and the Members of the Comité SIDA (Ministry of Health, Conakry, Guinea)
- TH.16 SEROLOGIC ANALYSIS OF 42 AIDS CASES FROM IVORY COAST
P.J. Kanki, G. de Thé, M. Essex (Harvard School of Public Health, Boston, MA, USA; CNRS, Laboratoire d'Epidémiologie et Immunovirologie des Tumeurs, Lyon, France)
- TH.17 CO-EXPOSURE TO THREE HUMAN RETROVIRUSES (HTLV-I, HIV-1, HIV-2) IN PROSTITUTES AND PREGNANT WOMEN IN IVORY COAST
M. Verdier, A. Sangare, G. Léonard, M. Mounier, F. Denis, G.M. Gershy-Damet, J.L. Rey, F. Karin, J. Hugon (CHU Dupuytren, Limoges; CHU Bretonneau, Tours, France; Institut Pasteur and INSP, Abidjan, Cote d'Ivoire)
- TH.18 HIV AND RELATED HUMAN RETROVIRUSES SEROPREVALENCE IN OUAGADOUGOU, BURKINA-FASO
L. Sangare, S. M'Boup, P. Kanki, H. Tiendre-Pecqo, R. Soudre, C. Boye, A. Gaye, D. Ricard, F. Denis (Ouagadougou Hospital, Ouagadougou, Burkina-Faso; Hôpital Le Dantec, Dakar-Fann, Senegal; Harvard School of Public Health, Boston, MA, USA; Hôpital Dupuytren, Limoges, France)
- TH.19 FIRST CASES OF ANTI HIV-1 SEROPOSITIVITY IN BENIN (WESTERN AFRICA)
D. Latrime, A. Bigot, M. de Bruyere, I. Zouhoun, G. Burtonboy (University of Louvain Hospital, Bruxelles, Belgium)
- TH.20 SEROEPIDEMIOLOGY OF HIV INFECTION IN RURAL AREAS OF NIGERIA AND AN EVIDENCE OF A NEW HIV RELATED VIRUS
H. Nasidi, T.O. Harry, I. Mohammed, Chikwem, I. Williams, A.O.O. Sorunqbe, G.C. Okafor, G.M.R. Munube (Federal Vaccine Production Laboratories, Yaba, Lagos; University of Maiduguri Teaching Hospital, Maiduguri; University of Calabar, & University of Nigeria Teaching Hospital, Enugu; Federal Ministry of Health, Onikari, Lagos and WHO Office, Lagos, Nigeria)

- TH.21 HUMAN RETROVIRUSES RELATED TO HIV IN CAMEROON, CENTRAL AFRICA
 F. Mowvondj, S. M'Boup, P. Kanki, J.-L. Sankale, A. Gaye, C. Boya, L. Sangare, M. Essex (Yaounde Hospital, Yaounde, Cameroon; Hôpital Le Dantec, Dakar-Fann, Senegal; Harvard School of Public Health, Boston, MA, USA)
- TH.22 PREVALENCE OF ANTIBODIES TO HTLV-III AND HTLV-I IN SOME AFRICAN AREAS
 M. Nuti, G. Luzi, A. De Felici, G. Roscigno, J.P. Furand, M. Merlin (1st University of Rome, and L. Spallanzani Hospital, Rome, Italy; Institut Pasteur, Yaounde; OCEAC, Service d'Epidemiologie et de Statistique, Yaounde, Cameroon)
- TH.23 SEROLOGIC PROFILES OF CENTRAL AFRICAN AIDS PATIENTS TO HIV-1 ANTIGENS
 E. Kanki, J. Allan, N. Clumeck, T. Quinn, M. Essex (Harvard School of Public Health, Boston, MA, USA; St. Peter's Hospital, Brussels, Belgium; National Institutes of Allergy and Infectious Diseases, Bethesda, MD, USA)
- TH.24 ABSENCE OF HIV-2/HTLV-4 IN CENTRAL AFRICA
 E. Kanki, J. Allan, F. Barin, M. Essex (Harvard School of Public Health, Boston, MA, USA; University of Tours, Tours, France)
- TH.25 ABNORMAL SEROLOGICAL RESPONSES FOR HIV-1 AND HIV-2 IN SOME PYGMIES FROM CENTRAL AFRICA
 E. Rey, D. Salaun, F. Barré-Sinoussi, J.C. Chermann, A. Georges (Institut Pasteur, Paris, France; Institut Pasteur, Bangui, République Centrafricaine)
- TH.26 TENTATIVE DETERMINATION OF AIDS INCIDENCE AND RISK FACTORS IN THE CAR
 F.M.V. Martin, M.C. Georges-Courbot, A.J. Georges (Institut Pasteur, Bangui, Central African Republic)
- TH.27 SEROLOGICAL SURVEYS OF HIV ANTIBODIES IN CENTRAL AND EAST AFRICA
 M.C. Georges-Courbot, M. Merlin, F.M.V. Martin, J.P. Gonzalez, D. Salaun, A.J. Georges (Institut Pasteur, Bangui, Central African Republic)
- TH.28 HIV-RELATED VIRUS IN GABON
 E. Delaporte, M.C. Dazza, T. Huet, A. Dupont, F. Brun-Vézinet, S. Wain-Hobson, A.G. Saimot, B. Larouzé (CIRMF, Gabon; INSERM U13/IMEA, and Hôpital Claude Bernard, Institut Pasteur, Paris, France)

- TH. 29 PREVALENCE RATES OF ANTIBODIES TO HIV-1 AND HIV-2 IN POPULATION SAMPLES FROM GABON
E. Delaporte, A. Dupont, M. Merlin, R. Josse, M. Hamono, M.C. Dazza, F. Brun-Vézinet, B. Larouze, A.G. Saimot (CIRMF, Gabon; IMEA/INSERM U13, and Hôpital Claude Bernard, Paris, France; OCEAC, Cameroon; Ministère Santé Publique, Gabon)
- TH. 30 HIV-ANTIBODIES IN PROSTITUTES, BRAZZAVILLE AND POINTE-NOIRE (CONGO)
P. M'Pele, A. Itoua-Ngaporo, M. Rosenheim, P. Eozenou, F. Yala, M. Makuwa, J.C. Gluckman, M. Gentilini (Hôpital Général de Brazzaville, and Service des Grandes Endémies, Brazzaville, Congo; Groupe Hospitalier Pitié-Salpêtrière, Paris, France; Laboratoire National de Santé Publique, Brazzaville, Congo)
- TH. 31 HIV-INFECTION IN IN-PATIENTS - BRAZZAVILLE - CONGO
A. Itoua-Ngaporo, P. M'Pele, C. Mouanga-Yidika, Moyen, M'Ecoussa, M.C. Samba Lefebvre, F. Yala, B. Carme, Obengui, M. Rosenheim, J.C. Gluckman, M. Gentilini (Hôpital Général de Brazzaville, Congo; Groupe Hospitalier Pitié-Salpêtrière, Paris, France)
- TH. 32 SERO-PREVALENCE OF ANTI-HIV ANTIBODIES IN BLOOD DONORS, BRAZZAVILLE (CONGO)
N. Copin, P. M'Pele, F. Yala, A. Itoua-Ngaporo, M. Rosenheim, G. Brucker, M. Gentilini (Hôpital Général de Brazzaville, Congo; Groupe Hospitalier Pitié-Salpêtrière, Paris, France)
- TH. 33 URBAN TO RURAL SPREAD OF HIV INFECTION IN DUNGU, ZAIRE
I. Surmont, J. Desmyter (Rega Institute and University Hospitals, University of Leuven, Belgium)
- TH. 34 DISTRIBUTION OF ANTIBODIES TO HIV-1 IN AN URBAN COMMUNITY (ARU, UPPER ZAIRE)
L. Akar, B. Larouze, S. Mabika Wa Bantu, F. Brun-Vézinet, M.C. Dazza, J.P. Coulaud, C. Gaudebout (INSERM U13, and Hôpital Claude Bernard, Paris, France; Zone de Santé d'Aru, Zaire)
- TH. 35 PREVALENCE OF HIV AND HTLV-IV INFECTIONS IN ANGOLA
B. Röttiger, I. Berggren, J. Leite, M. Ferreira, L. Fernandes Dias, G. Biberfeld (National Bacteriological Laboratory, Stockholm, and Danderyd Hospital, Sweden; Ministry of Health and the National Blood Bank, Luanda, Angola)
- TH. 36 PREVALENCE OF ANTIBODIES TO HIV IN A RURAL AREA OF BURUNDI
M. Galli, A. Saracco, C. Verga, C. Zehender, R. Esposito, M. Moroni (University of Milan, Milan, Italy)

- TH. 37 CROSS SECTIONAL STUDY OF HIV INFECTION IN SOUTH WESTERN UGANDA
W. Naamara, F. Plummer (Nairobi University, Nairobi, Kenya)
- TH. 38 LOW PREVALENCE OF HIV ANTIBODIES IN A REMOTE AREA OF KENYA
A. Saracco, M. Galli, G. Zehender, C. Uberti Foppa, A. Lazzarin, M. Moroni (University of Milan, Milan, Italy)
- TH. 39 AIDS STUDIES IN KENYAN HAEMOPHILIACS
G.W. Kitonyi, T. Bowry, E.G. Kasili (College of Health Sciences, University of Nairobi, Kenya)
- TH. 40 SEROEPIDEMIOLOGY OF HUMAN RETROVIRUS INFECTIONS (HIV-1, HIV-2, HTLV-I) IN RURAL REGIONS OF KENYA AND TANZANIA
E. Cuneo-Crovati, G. Imberciadori, A. Di Fonzo, F. Lai, G. Penco, T. Rousson, N. Nante, G.C. Icardi, P. Crovati (University of Genoa, Genoa, Italy)
- TH. 41 AIDS IN THE NORTHERN ZONE OF TANZANIA
W.P. Howlett, W. Nkya, K.A. Mmuni (Kilimanjaro Christian Medical Centre, Northern Tanzania, Moshi, Tanzania)
- TH. 42 HIV INFECTION IN TANZANIA: INITIAL OBSERVATIONS
J. Shao, Mbagu, E. Mbeni (Muhimbili Medical Centre, Dar es Salaam, Tanzania)
- TH. 43 PREVALENCE OF HIV-ANTIBODIES IN POPULATION GROUPS IN TANZANIA
G. Haukenes, F. Mhalu, J. Shao (The Gade Institute, Bergen, Norway; Muhimbili Medical Centre, Dar es Salaam, Tanzania)
- TH. 44 PREVALENCE OF HIV-1 IN SELECTED POPULATIONS AND AREAS IN MALAWI
L. Güntler, J. Eberle, F. Deinhardt, G.N. Liomba, N.G. Ntuba, A.J. Schmidt (Max Von Pettenkofer Institute for Hygiene and Medical Microbiology, Munich, Germany; Queen Elizabeth Central Hospital, Blantyre, Malawi)
- TH. 45 PERSPECTIVE OF AIDS IN SOUTH AFRICA
M. Crespi, B.D. Schoub, S.F. Lyons, G.M. McGillivray, A.N. Smith, S. Johnson (National Institute for Virology, Transvaal, South Africa)

- TH.46 LACK OF HIV SEROPOSITIVITY IN A SELECTED POPULATION OF SOMALIA
O. Ader, F. Titti, Y.A. Nur, A. Sebastiani, G. Mariani, P. Verani (Blood Bank Center, Mogadishu, Somalia; Istituto Superiore di Sanità, and University "La Sapienza", Rome, Italy)
- TH.47 RETROSPECTIVE HIV SERO-EPIDEMIOLOGY IN ASMARA (ERITREA):1963
A. Aceti, B.S. Eapang, A. Sebastiani (University "La Sapienza", Rome, Italy)
- TH.48 RETROSPECTIVE AND PROSPECTIVE SEROEPIDEMIOLOGIC STUDIES ON HIV-1, HIV-2, AND HTLV-I INFECTIONS IN NORTH AND CENTRAL AFRICA
G. Giraldo, S.K. Kyalwazi, R. Owor, R. Mugerwa, D. Serwadda, Md.R. Gharbi, F. Barré-Sinoussi, F. Brun-Vézinet, P. Kanki, M. Essex, S. Ceparano, M. Monaco, E. Beth-Giraldo (National Cancer Institute, Naples, Italy; Mulago Hospital, Makerere University, Kampala, Uganda; Hôpital Charles Nicolle, Tunis, Tunisia; Institut Pasteur, and Hôpital Claude Bernard, Paris, France; Harvard School of Public Health, Boston, MA, USA)
- TH.49 EPIDEMIOLOGY OF HIV INFECTION IN TUNISIA
Y. Gharbi, M. Girard, R. Blibech, R. Kastally (Hôpital Habib Thameur, Tunis, Tunisia; CNTS, Paris, France)
- TH.50 HIV-1 AND HBV INFECTIONS AMONG HEALTHY AFRICAN IMMIGRANTS LIVING IN ROME
S. Cianfanani, G. Martino, G. Rezza, F. Titti, M. Rapietta, S. Geraci, F. Pisani, P. Verani ("Fernando Rielo" Medical Center-Caritas, and Ministry of Health, and Istituto Superiore di Sanità, Rome, Italy)
- TH.51 SEROEPIDEMIOLOGY OF HIV INFECTION IN FOREIGN STUDENTS, PREVALENTLY COMING FROM AFRICA, LIVING IN TURIN (ITALY)
C. Zotti, A. Maiello, M. Bolgiani, A. Moiraghi (University of Turin, Turin, Italy)
- TH.52 AFRICAN AND AFRICA RELATED AIDS CASES IN BELGIUM
L.A. Van Hemeldonck, et al. (Institute for Hygiene and Epidemiology, Brussels, Belgium)
- TH.53 AIDS CASES AND HIV INFECTIONS RELATED TO AFRICA IN THE UNITED KINGDOM
G. Marasca, A. McCormick, E. Hostler (Communicable Disease Surveillance Centre, PHLS, London, UK)

- TH.54 HIV-POSITIVITY AMONG DANISH PROFESSIONALS RETURNING FROM AFRICA
E. Tauris, F.T. Black (Marselisborg Hospital, University of Aarhus, Aarhus, Denmark)
- TH.55 GENETIC RELATIONSHIP OF HIV-2 ISOLATES AND THEIR RELATEDNESS TO HIV-1 AND STLV-III_{AGM}
G. Franchini, M. Reitz, E. Collalti, H. Guo, F. Wong-Staal, G. Riberfeld, R. Gallo (National Cancer Institute, NIH, Bethesda, MD, USA; State Biological Laboratory, Stockholm, Sweden)
- TH.56 CONSTRUCTION OF HIV-1 DELETION MUTANTS BETWEEN THE 5'LTR AND GAG GENES
V. Heisig, M. Ebeling, R. Laufs (Universitat Hamburg, Hamburg, W. Germany)
- TH.57 COMPARISON OF HIV-2 AND STLV-III_{ISM}
M. Jennings, E. Barré-Sinoussi, F. Rey, F. Ollivier-Henry, M. Gardner, J.C. Chermann, et al. (University of California Davis, Davis, CA, USA; Institut Pasteur, Paris, France)
- TH.58 HIV RELATED SEQUENCES IN INSECTS FROM CENTRAL AFRICA
J.C. Chermann, J.L. Becker, U. Hazan, B. Spire, F. Barré-Sinoussi, A. Georges, et al. (Institut Pasteur, Paris, France; Institut Pasteur, Bangui, République Centrafricaine)
- TH.59 BOVINE LEUKEMIA VIRUS (BLV) AND HUMAN IMMUNODEFICIENCY VIRUS (HIV): AN ULTRASTRUCTURAL STUDY
E.M. Cereda, G. Filice, E. Romero (University of Pavia, Pavia, Italy)
- TH.60 T-CELL SPECIFIC EPITOPES ON HIV ENVELOPE GLYCOPROTEIN RECOGNIZED BY IMMUNIZED CHIMPANZEES
K. Krohn, K. Cease, L. Arthur, R. Fischer, A. Ranki, S. Putney, P. Lusso, P. Fischinger, R.C. Gallo, J. Berzofsky (National Cancer Institute, NIH, Bethesda, MD; Biogen Corp. and Repligen Corp. Cambridge, MA, USA)
- TH.61 T-CELL RESPONSE TO HIV AND HIV-DERIVED PEPTIDES IS SEEN IN NON-INFECTED PARTNERS OR AZT-TREATED PATIENTS BUT NOT IN INFECTED HUMAN BEINGS
A. Ranki, S. Mattinen, R. Yarchocan, K. Krohn (National Cancer Institute, NIH, Bethesda, MD, USA; University of Helsinki, and University of Tampere, Finland)
- TH.62 PERIPHERAL BLOOD T4 LYMPHOCYTE NUMBERS IN ZIMBABWEAN PATIENTS WITH HIV INFECTION
D. de Villiers, S. Grace, A. Latif, D. Katzenstein, J. Emmanuel (University of Zimbabwe, and Blood Transfusion Service, Harare, Zimbabwe)

- TH.63 THE IMMUNOGLOBULIN PROFILE IN WHITE AND BLACK HIV-PATIENTS
J. Sonnet, F. Zech (Universite de Louvain, Bruxelles, Belgique)
- TH.64 IMMATURE AND ABNORMAL LYMPHOCYTES IN HIV-POSITIVE HEMOPHILIACS AND HIV-CARRIERS
C.Pathouli, J. Spiliotopoulou, Ir. Kontopoulou-Griva (University of Athens, and Hippocraton Hospital, Athens, Greece)
- TH.65 EVALUATION OF CD4 4B4, CD4 2H4, B1 D/Dr, CD8 D/Dr LYMPHOCYTE SUBSETS DURING THE EVOLUTION OF THE HIV INFECTION
U. Raiss, F.M. Gritti, M. Schiattone, G.M. Casertano, L. Pulsatelli, M. Martuzzi (Ospedale Maggiore, Bologna, Italy)
- TH.66 A MIMICRY MODÉL FOR THE IMMUNE IMPAIRMENT IN INFECTIONS BY LYMPHOTROPIC VIRUSES
S. Giunta, R. Rinaldi, G. Grilli, G. Groppa (I.N.R.C.A., Ancona, Italy)
- TH.67 THE SPECTRUM OF AIDS-LIKE DISEASE IN SENEGAL
R. Marlink, A. Sow, D. Ricard, P. Kanki, S. M'Boup, J.-L. Romet-Lemonne, M. Essex, et al. (Harvard School of Public Health, Boston, MA, USA; University of Dakar, Dakar, Senegal)
- TH.68 ORAL MANIFESTATION OF HIV-INFECTION IN TANZANIA
M. Schiodt, I. Bygbjerg, P. Bakilana, J. Hiza, J. Shao, K. Kujlen, E.F. Vestergaard, C.M. Nielsen, E. Lauritzen, B. Lerche (University Hospital, and Statens Seruminstitut, Copenhagen, Denmark; Muhimbili Medical Centre, and Nordic Clinic, Dar es Salaam, Tanzania)
- TH.69 THE MACULO-PAPULAR SKIN RASH ASSOCIATED WITH AIDS AS SEEN IN UGANDA
A.M.T. Lwegaba (AIDS Control Programme, Ministry of Health, Ertebbe, Uganda)
- TH.70 THE INVOLVEMENT OF THE CNS IN AIDS PATIENTS
S. Mancuso, V. Accurso, G.C. Messina, R. Ferricone, A. Cajozzo (University of Palermo, Palermo, Italy)
- TH.71 PROGRESSION OF HUMAN IMMUNODEFICIENCY VIRUS DISEASE: FOLLOW UP STUDY OF HERPES ZOSTER, PERSISTENT (GENERALISED) LYMPHADENOPATHY AND OTHER FEATURES OF AIDS-RELATED COMPLEX
S.K. Hira, D. Wadhawan, J. Kamanga, R. Macuacua, G. Mpoko, P.L. Ferine (University Teaching Hospital, Lusaka, Zambia)

- TH.72 PERSISTENT DIARRHEA IN AFRICAN PATIENTS WITH HIV INFECTION
I. Lebughe, R. Colebunders, A. Nelson, P. Gigase, B. Kapita, K. Lusakumunu, et al. (Project SIDA, Department de la Santé Publique; Mama Yemo Hospital, Kinshasa, Zaire; Institute of Tropical Medicine, Antwerp, Belgium)
- TH.73 PARASITOLOGICAL STOOL EXAMEN IN PATIENTS WITH AIDS. BRAZZAVILLE (CONGO)
 B. Carme, P. M'Pele, A. Itoua-Ngaporo, A. Mbisi, M. Rosenheim, M. Gentilini (Hôpital Général de Brazzaville, Congo; Groupe Hospitalier Pitié-Salpêtrière, Paris, France)
- TH.74 HIV INFECTION AND TUBERCULOSIS IN BUJUMBURA, BURUNDI
E. Standaert, F. Niragira, P. Kadende, P. Piot (Project SIDA - Belgium Cooperation, University of Antwerp, and Institute Tropical Medicine, Antwerp, Belgium; Centre Hospitalier Universitaire de Bujumbura, Burundi)
- TH.75 TUBERCULOSIS, OPPORTUNISTIC CONDITIONS AND HIV INFECTION IN BOTSWANA
W.D. Osei, E.T. Maganu (Ministry of Health, Gaborone, Botswana)
- TH.76 LACK OF ASSOCIATION OF TUBERCULOSIS WITH HIV-2 INFECTION
P. Karki, S. M'Boup, F. Barin, D. Ricard, M. Essex (Harvard School of Public Health, Boston, MA, USA; University of Dakar, Dakar, Senegal; University of Tours, France)
- TH.77 RELATIONSHIP BETWEEN P. FALCIPARUM MALARIA AND HIV SEROPOSITIVITY AT NDOLA, ZAMBIA
O. Simcoya, R.M. Mwendapole, S. Siziya, A.F. Fleming (Tropical Diseases Research Centre, Ndola, Zambia)
- TH.78 HIV INFECTION AND LEPROSY: AN HYPOTETICAL MUTUAL INTERFERENCE
 D. Daumerie, F. Castelli, G. Pizzocolo, G. Carosi (Marchoux Institute, Bamako, Mali; University of Brescia, Italy)
- TH.79 ISOLATION AND CHARACTERIZATION OF HIV-1 FROM UGANDA
 D. Serwadda, N.K. Sewankambo, J.W. Carswell, R.G. Downing, G. Lloyd, J. Bingham, J.D. Oram (Mulago Hospital, Kampala; WHO AIDS Control Center, Entebbe, Uganda; FHLs Centre for Applied Microbiology and Research, Salisbury, UK)

- TH.80 HTLV III-TB ASSOCIATION IN NORTHERN UGANDA (GULU DISTRICT)
U. Recine, S. Orach, A. Petti, M. Lukwiya, P. Corti (Development Cooperation, Health Section, Ministry of Foreign Affairs, Italy; St. Mary's Hospital Lacor, Gulu, Uganda)
- TH.81 RADIOLOGICAL FEATURES OF PULMONARY INFECTIONS IN AIDS-PATIENTS IN GULU DISTRICT (UGANDA)
A. Petti, U. Recine, S. Orach, M. Lukwiya (Development Cooperation, Health Section, Ministry of Foreign Affairs, Italy; St. Mary's Hospital Lacor, Gulu, Uganda)
- TH.82 UN CAS DE SIDA ASSOCIE' A UNE THROMBOPENIE CHEZ UNE JEUNE FEMME DE 22 ANS
C. Mefane, A. Ficaud, D. Benoni (Faculté de Médecine et Sciences de la Santé, Libreville, Gabon)
- TH.83 AN IMMUNOHISTOCHEMICAL STUDY OF KAPOSI'S SARCOMA SPINDLE CELLS IN CULTURE
J.K. Shaba (University of Helsinki, Helsinki, Finland)
- TH.84 INCIDENCE OF HIV INFECTIONS IN MOROCCO
A. Ben Slimane, M. Riyad, S. Sekkat, N. Benchemsi, M. Carraz (Faculté de Médecine et de Pharmacie, and Centre de Transfusion Sanguine, Casablanca, Maroc; Institut Pasteur, Lyon, France)
- TH.85 THE DIAGNOSIS OF CRYPTOSPORIDIOSIS AS A CONTRIBUTION TO THE IDENTIFICATION OF AIDS CASES IN MALAWI
N. Schimale, R. Favone, C.A. Hart, D. Baxby, M.E. Molyneux, A. Borgstein (Istituto Superiore di Sanità, Rome, Italy; University of Liverpool, Liverpool School of Tropical Medicine, UK; Queen Elizabeth Central Hospital, Blantyre, Malawi)
- TH.86 REVIEW OF 52 CASES OF AIDS IN CHILDREN 2-12 YEARS OLD AT MAMA YEMO HOSPITAL, KINSHASA, ZAIRE
F. Davachi, P. Baudoux, K. Ndoko, K. Ngole, B. N'Galy, M.B. Tady, S. Francis (Mama Yemo Hospital, AIDS Project, Kinshasa, Zaire; National Institutes of Health, Bethesda, MD, USA)
- TH.87 SERUM NEOPTERIN AS PROGNOSTIC MARKER IN PATIENTS WITH KAPOSI'S SARCOMA FROM CENTRAL AFRICA
A. Capobianco, G. Manfreda, M. Perna, F.M. Buonauro, R. Beneventi, G. Frigioni, S.K. Kyalwazi, R. Owor, R. Mugerwa, D. Serwadda, E. Beth-Giraldo, G. Giraldo (Ospedale S. Carlo, Potenza; National Cancer Institute, Naples, Italy; Mulago Hospital, Makerere University, Kampala, Uganda)

- TH. 88 NEOPTERIN EXCRETION AND IMMUNOLOGICAL FEATURES OF
 KAPOSI'S SARCOMA PATIENTS
 M. Perna, A. Marfella, G. Santelli, G. Melillo, G.
 Castello, D. Zarrilli, V. Ruocco, F. Tullio Cataldo, R.
 De Biasi, E. Beth-Giraldo, G. Giraldo (National Cancer
 Institute, Naples; I University of Medicine, and 2nd
 Clinic of Infectious Disease, Naples; Center for
 Haemophilia, Ospedale Nuovo Pellegrini, Naples, Italy)
- TH. 89 ASSESSMENT OF A PROVISIONAL W.H.O. CLINICAL CASE-
 DEFINITION OF HIV RELATED ILLNESS IN THE REFERAL
 HOSPITAL OF UGANDA
 R. Mugerwa, R. Widy-Wirski, S. Okware, R. Downing, S.
 Berkley (Mulago Teaching Hospital, Kampala; AIDS
 Control Programme, and Task Force for Child Survival,
 Entebbe, Uganda)
- TH. 90 SEROLOGICAL STUDY ON THE PRESENCE OF HIV IN ETHIOPIA
 S. Ezzto, K. Hailu, D. Bekura, L. Senniccola, F. Verani,
 F. Titti, M. Rapicetta, G.E. Rossi (Istituto
 Superiore di Sanità, Rome, Italy; Armed Forces General
 Hospital, Addis Abeba, Ethiopia)

- F.1 CONGENITAL HIV TRANSMISSION IN A LARGE URBAN HOSPITAL IN KINSHASA
W. Nsa, R. Ryder, H. Francis, D. Matela, D. Utshudi (Projet SIDA, Kinshasa, Zaire; CDC, Atlanta, GA, and NIH, Bethesda, MD, USA)
- F.2 CONGENITAL HIV TRANSMISSION AT AN UPPER-MIDDLE CLASS HOSPITAL IN KINSHASA
E. Baende, R. Ryder, F. Behets, H. Francis, S. Duale, U. Kabagabo (Projet SIDA, Kinshasa, Zaire; CDC, Atlanta, GA, and NIH, Bethesda, MD, USA)
- F.3 PLACENTAL PATHOLOGY IN HIV SEROPOSITIVE MOTHERS IN KINSHASA
A. Nelson, V. Anderson, R. Ryder, A. Macher, S. Duall, W. Nsa, H. Francis (Projet SIDA, Kinshasa, Zaire)
- F.4 AIDS AND MALNUTRITION IN NEW-BORNS
J.-L. Excler, E. Standaert, E. Noendandumwe, F. Piot (University Roi Khaled, Bujumbura, Burundi; Projet SIDA au Burundi-Belgium Cooperation; Tropical Institute, Antwerp, Belgium)
- F.5 THE CDC PEDIATRIC HIV CLASSIFICATION IN CHILDREN OF AFRICAN ORIGIN
I. Jonckheer, J. Levy, M. Spehl, A. Van Hemeldonck (Institute for Tropical Medicine, Antwerp; St. Peter Univ. Hospital, Brussels; Institute for Hygiene and Epidemiology, Brussels, Belgium)
- F.6 TWENTY-SIX MONTHS FOLLOW-UP OF A CHILD WITH CLASS P2-C HIV INFECTION: CLINICAL, IMMUNOLOGICAL, SEROLOGICAL AND VIROLOGICAL STUDIES
S. Sprecher, J. Levy, F. Mascart-Lemone, G. Zizzis (Institut Pasteur du Brabant; Hôpital Saint-Pierre, Free University Brussels, Brussels, Belgium)
- F.7 DETECTION OF HIV ANTIGEN, ANTI p24 AND ANTI gp 41 ANTIBODIES AND CLINICAL STATUS AMONG DRUG ADDICTS
A. R. Zanetti, A. Cargnel, E. Tanzi, P. Viganò, L. Valsecchi, A. Gringeri (Institute of Virology, and Institute of Internal Medicine, University of Milan; Hospital L. Sacco, Milan, Italy)
- F.8 ANTI-p24 ANTIBODY: A PROGNOSTIC INDICATOR. ITS ASSOCIATION WITH HIV ANTIGENAEMIA IN A COHORT OF HOMOSEXUAL MEN
J. Weber, D. Jeffries, C. Kenny, M. Ali, D. Parker, R. J. S. Duncan, R. Cheingsong-Popov (Institute of Cancer Research, and St. Mary's Hospital, London; Wellcome Diagnostics, Beckenham, U.K.)

- F.9 SEROLOGICAL COMPARISON OF HIV INFECTED INDIVIDUALS IN AFRICA, U.S., AND EUROPE
D. Paul, D. Mack, D. Mathez, J. Leibowitch, J. Goudsmit (Abbott Laboratories, North Chicago, IL, USA; Hôpital Raymond Poincaré, Garches, France; Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands)
- F.10 HOW LONG SHOULD BE TREATED AN AIDS PATIENT WITH PNEUMOCYSTIS CARINII PNEUMONIA (PCP)?
S. Sabbatani, C. Monti, L. Bonazzi, E. Raise, G. Di Giandomenico, V. Vannini, F.M. Gritti (Ospedale Maggiore, Bologna, Italy)
- F.11 THE IMMUNOPROPHYLAXIS AND/OR IMMUNOTHERAPY WITH THYMIC HORMONES IN HIV-SEROPOSITIVE ASYMPTOMATIC SUBJECTS AND IN AIDS PATIENTS
W. Kornaszewski, K. Lurhuma, A.B. Skotnicki, K. Kayembe, K. Mamba, M. Mbula, K. Mbayo, M. Kornaszewska (Cliniques Universitaires de Kinshasa, Kinshasa, Zaire; Medical Academy of Krakow, Krakow, Poland)
- F.12 ZINC AND BESTATIN AS IMMUNOREGULATORS IN CANCER PATIENTS
G. Mathé, C. Canon, J.L. Misset, I. Blazsek, M. Gil-Delgado, S. Brienza, M. Musset, I. Fiorentin (Sce des Maladies Sanguines et Tumorales & ICIG, Hôpital Paul-Brousse, Villejuif, France)
- F.13 POSSIBLE GENETIC FACTORS IN AIDS IN TRINIDAD
C. Bartholomew, V. Wilson, F. Cleghorn (University of the West Indies, General Hospital, Port of Spain, Trinidad, West Indies)
- F.14 HIV ANTIGENAEMIA, Gc PHENOTYPES AND AIDS IN DUNGU, ZAIRE
I. Surmont, J. Desmyter, H. Van Baelen, R. Bouillon, P. Declercq, L. Marcelis (Rega Institute and Department of Endocrinology, University of Leuven, Leuven, Belgium)
- F.15 MALIGNANCIES IN THE COURSE OF HIV INFECTION
M. Dietrich, W. Meigel, P. Racz, K. Tenner-Racz, H. Seidel, P. Kern (Tropical Institute, Hamburg; Allg. Krankenhaus St. Georg, Hamburg, Germany)
- F.16 HBV AND HIV STATUS IN HEPATOCELLULAR CARCINOMA IN ZAIRE
L.O. Kashala, M.M.R. Kalengayi, P.C. Frei (Kinshasa University Hospital and Medical Faculty, Kinshasa, Zaire; Centre Hospitalo-Universitaire Vaudois, University of Lausanne, Lausanne, Switzerland)

- F.17 CONTINUOUS IN VITRO GROWTH OF KAPOSI'S SARCOMA-DERIVED ENDOTHELIAL CELLS
S. Nakamura, S.Z. Salahuddin, L. Larson, P. Biberfeld, P.D. Markham, R.C. Gallo (National Cancer Institute, Bethesda, MD, USA; Karolinska Institute, Stockholm, Sweden)
- F.18 ENDOTHELIAL CELL MARKERS ON AIDS-KAPOSI'S SARCOMA CELL CULTURES
W.K. Roth, S. Wernier, P.H. Hofschneider (Max-Planck-Institut für Biochemie, Martinsried, Fed. Rep. Germany)
- F.19 MOLECULAR CHARACTERIZATION OF KAPOSI'S SARCOMA AND VASCULAR ENDOTHELIUM
E. Ensoli, L. Larson, S. Nakamura, Z. Salahuddin, B. Beaver, P. Biberfeld, F. Wong-Staal, R.C. Gallo (National Cancer Institute, Bethesda, MD, USA; Karolinska Institute, Stockholm, Sweden)
- F.20 TUBULORETICULAR STRUCTURES IN KAPOSI'S SARCOMA CELLS: AN ULTRASTRUCTURAL MARKER FOR AIDS?
K.-H. Marquart, E. Katongole-Mbidde, M. Phillip, R. Engst (Institute of Pathology, Gesellschaft für Strahlen- und Umweltforschung mbH München, Neuherberg; Krankenhaus Bad Cannstatt, Stuttgart; Technical University of Munich, Munich, Fed. Rep. Germany; Uganda Cancer Institute, Kampala, Uganda)
- F.21 CLINICAL, SEROLOGICAL AND ULTRASTRUCTURAL FEATURES OF AIDS-ASSOCIATED KAPOSI'S SARCOMA IN UGANDA
K.-H. Marquart, E. Katongole-Mbidde, H.A.G. Müller, P. Hartter (Institute of Pathology, Gesellschaft für Strahlen und Umweltforschung mbH München, Neuherberg; Institute of Clinical Chemistry, Katharinenhospital, Stuttgart; Institut für Medizinische Virologie und Infektionsepidemiologie e.V., Stuttgart, Fed. Rep. Germany; Uganda Cancer Institute, Kampala, Uganda)
- F.22 ULTRASTRUCTURAL FINDING OF "TUBULORETICULAR INCLUSIONS" SEEN IN HAIRY CELL LEUKEMIA AND IN AIDS: A MARKER OF VIRUS-INDUCED DISEASE?
G. Mantovani, G. Santa Cruz, A. Pisco, A. Coiana, G.S. Del Giacco (University of Cagliari, Cagliari, Italy)
- F.23 ANTI NUCLEO-CAPSID ANTIBODIES AND S-HIV ANTIGENAEMIA: CORRELATIONS WITH BLOOD T4 CELL COUNTS AND CLINICAL STATUS
D. Mathez, D. Paul, G. Saimot, D. Jayle, J. Leibowitch (Hôpital Raymond Poincaré, Garches; Hôpital Claude Bernard, and Hôpital Tarnier, Paris, France; Abbott Research and Development, Abbott Park, IL, USA)

- F.24 LYMPHADENITIS WITH HYPERVASCULAR FOLLICULAR HYPERPLASIA AND KAPOSI'S SARCOMA IN AFRICAN PATIENTS WITH HIV INFECTION
E. Racz, K. Tenner-Racz, J. Ramsauer, M. Dietrich, P. Kern, W. Meigel, W. Kornaszewski (Bernhard-Nocht-Institut, and Allgemeines Krankenhaus St. Georg, Hamburg, West Germany; Cliniques Universitaires de Kinshasa, Kinshasa, Zaire)
- F.25 IMMUNOHISTOCHEMICAL AND HISTOPATHOLOGICAL ANALYSIS OF LYMPH NODES FROM HIV+ PATIENTS
G. Nicolò, A. Perasole (Istituto Nazionale per la Ricerca sul Cancro, Genova, Italy)
- F.26 ANATOMOCLINICAL FEATURES OF ENDEMIC AND AIDS-ASSOCIATED KAPOSI'S SARCOMA IN ZAIRE
M.M.R. Kalengayi, L.O. Kashala (Kinshasa Medical Faculty and African Organization for Research and Training in Cancer (AORTIC), Kinshasa, Zaire)
- F.27 DIAGNOSTIC IMPLICATIONS OF GENITAL KAPOSI'S SARCOMA (KS)
E. Katongole-Mbidde, M. Nakakeeto, C. Banura (Uganda Cancer Institute, UCI, Kampala, Uganda)
- F.28 CLINICAL FEATURES OF ENDEMIC AND ATYPICAL AFRICA KAPOSI'S SARCOMA
A. Bayley, A. Ansary (University of Zambia, Lusaka, Zambia)
- F.29 CLINICAL MANIFESTATIONS OF KAPOSI'S SARCOMA (KS) IN CENTRAL AFRICA
I. Lebughe, R. Colebunders, B. Kapita, H. Francis, A. Nelson, K. Ndangi, et al. (Project SIDA, Mama Yemo Hospital, Kinshasa, Zaire)
- F.30 KAPOSI'S SARCOMA (KS) "REVISITED" AT AIDS' TIME: MULTIFORM EXPRESSION OF A TUMOR
M.M.R. Kalengayi, L.O. Kashala (Kinshasa Medical Faculty and African Organization for Research and Training in Cancer (AORTIC), Kinshasa, Zaire)
- F.31 HIV SEROPOSITIVITY AND T4/T8 RATIO IN ENDEMIC KAPOSI'S SARCOMA IN KENYA
S. Masindet (University of Kenya, Nairobi, Kenya)
- F.32 INTERFERON ADMINISTERED INTRALESIONALLY IN SKIN AND ORAL CAVITY LESIONS IN PATIENTS WITH AIDS-RELATED KAPOSI'S SARCOMA (AIDS-KS)
E. Sullis, C. Floris, S. Piro, L. Contu (Ospedale Oncologico "A. Businco"; Divisione Malattie Infettive e Clinica Medica II, Cagliari, Italy)

- F.33 FAMILIAL MEDITERRANEAN KAPOSI'S SARCOMA (FMKS): TWO FAMILIES
 H. Kaloterakis, A. Filiotou, A. Reqi, C. Stravropoulos, I. Stratigos (University of Athens, and General Hospital of Athens, Athens, Greece)
- F.34 PRACTICAL MEASURES TO PREVENT AIDS IN SENEGAL AND WEST AFRICA
 (Inter-universities convention to study Human viruses. Cancers and related diseases. National AIDS committee from Senegal and National Center for sexually transmitted diseases, Senegal; Université de Dakar, Senegal; Universités de Tours et de Limoges, France; Harvard University, Boston, MA, USA; Comité National de lutte contre le SIDA, Dakar, Senegal)
- F.35 CHANGING SEXUAL BEHAVIOR IN AFRICA TO REDUCE THE HIV EPIDEMIC
 C. Clark, A. Kuhn, E. Tramont (Shape Hospital, Shape, Belgium; Walter Reed Army Institute of Research, Washington, DC, USA)
- F.36 NON TROPICAL AND TROPICAL AIDS ARE NOT SO PARADOXAL
 F. Vachon, E. Bouvet (Hôpital Claude Bernard, Paris, France)
- F.37 ESSENTIAL DRUG POLICY IN AFRICA AND HIV INFECTIONS
 O. Patey, J.E. Malkin, Ch. Lafaix (GEEP, Service des Maladies Infectieuses, CHI Villeneuve St Georges, France)
- F.38 COMPARISON OF SIX ANTI-HIV ELISAS WITH ZAMBIAN SERA
 R. Mwendapule, C. Syabula, J. Schneider, F. Guillot, A.F. Fleming, G. Hunsmann, et al. (Tropical Diseases Research Centre, Ndola, Zambia; German Primate Centre, Göttingen, Fed. Rep. Germany)
- F.39 COMPARISON OF COMMERCIAL ELISAs FOR DETECTION OF HIV ANTIBODIES IN EAST AFRICAN SERA
 U. Bredberg-Råder, E. Mbera, J. Kiango, F. Mhalu, G. Biberfeld (National Bacteriological Laboratory, Stockholm, Sweden; Muhimbili Medical Centre, Dar es Salaam, Tanzania)
- F.40 A RAPID ENZYME IMMUNOASSAY FOR THE DETECTION OF ANTIBODIES TO HUMAN IMMUNODEFICIENCY VIRUS (HIV)
 R.M. Pennington, K. Knigge, J.M. Staller, M. Pope, S.A. Ehrlich, L. Filar (AIDS Research and Development, Abbott Laboratories, N. Chicago, IL, USA)

- F.41 EVALUATION OF AN IMPROVED ANTI-HIV-1 EIA SCREENING TEST USING RECOMBINANT p24 AND p41 PROTEINS
R.M. Fico, J. Shih, L. Paul, S. Donoghue, L. Filar, L. Valdivia, G. Coslett, H. Troonen, R. Schoen (Abbott Laboratories, Abbott Park, IL, USA, and Delkenheim, West Germany)
- F.42 VALUE OF SECOND-GENERATION ANTI-HIV EIAs FOR THE EARLY DETECTION OF HIV-INFECTIONS
P.N. Lelie, H.W. Reesink (Central Laboratory of the Netherlands Red Cross Bloodtransfusion Service, Amsterdam, The Netherlands)
- F.43 COMPARISON OF CONFIRMATORY EIA TESTS AND WESTERN BLOT FOR ANTI-HIV
Ch. Francois-Gerard, A. Albert, M. Bl. Pemacle, Ch. Warling, D. Sondag-Thull (University of Liège, Liège, Belgium)
- F.44 COMPARISON OF 3 FIRST-GENERATION, 3 SECOND-GENERATION AND 3 CONFIRMATORY ASSAYS FOR ANTI-HIV DETECTION
P.N. Lelie, H.W. Reesink, J.G. Huisman (Central Laboratory of the Netherlands Red Cross Bloodtransfusion Service, Amsterdam, The Netherlands)
- F.45 RAPID, EASY, AND ECONOMICAL SCREENING TEST FOR ANTIBODIES TO HUMAN IMMUNODEFICIENCY VIRUS (HIV)
J.R. Carlson, J.L. Yee, E. Watson-Williams, M.B. Jennings (School of Medicine, University of California, Davis, CA, USA)
- F.46 THE WELLCOZYME HIV MONOCLONAL TEST KIT
C. Roberts, R.J.S. Duncan, W. Edgar, I. Cayzer, S. Field, R. Cheingsong-Popov, L. Mackinlay (Wellcome Research Laboratories, Langley Court, Beckenham, Kent, UK)
- F.47 DETECTION OF ANTIBODIES TO HIV-2 (LAV II) IN GERMAN AND AFRICAN PATIENTS BY INDIRECT IMMUNOFLUORESCENCE
H. Schmitz, M. Küppers (Bernhard-Nocht-Institut, Hamburg, Fed. Rep. Germany)
- F.48 SEROLOGICAL PROFILES OBSERVED WITH HIV-1 AND/OR HIV-2 POSITIVE WEST-AFRICAN SERA IN A NEW STRIP ELISA USING HIV-1 RECOMBINANT ANTIGENS (RIBA-HIV 216, ORTHO DIAGNOSTIC SYSTEM)
G. Léonard, M. Verdier, F. Denis, M. Mounier, G. Calvo, A. Sangare, G.M. Gershy-Damet, M. Prince-David, F. Barin (CHU Dupuytren, Limoges; Ortho Diagnostic Systems; CHU Bretonneau, Tours, France; Institut Pasteur Adidjar, Côte d'Ivoire; Université de Dakar, Senegal)

- F.49 ASSESSMENT OF A RAPID HIV LATEX AGGLUTINATION TEST IN
ZAIRE
K. Mulanga, H. Francis, Nseka, R. Ryder, N. Botay, T.
Quinn, et al. (Project SIDA, Kinshasa; Blood Bank,
Mama Yemo Hospital, Kinshasa, Zaire; Johns Hopkins
University, Baltimore, MD, USA)
- F.50 PASSIVE HEMAGGLUTINATION ASSAY FOR HIV ANTIBODY
SCREENING
D. Weisner, J. Petruska, A. Suarez, D. Traylor,
J. Scheffel (Clinical Immunology Research, Abbott
Laboratories, North Chicago, IL, USA)
- F.51 COMPARISON OF FOUR FAST, VISUAL AND MANUAL ASSAYS FOR
THE DETECTION OF HIV ANTIBODIES IN HUMAN PLASMA OR SERA
R.L. Cybulski, W.R. Pagels, C.M. Crane, J.E. Galvin
(Medical Products Dept., E.I. Du Pont de Nemours and
Co., Inc., Glasgow Research Laboratory, Wilmington, DE,
USA)
- F.52 ESTIMATION OF HUMAN IMMUNODEFICIENCY VIRUS (HIV)
ANTIBODIES IN WHOLE BLOOD COLLECTED ON FILTER PAPER AND
IN SERUM FROM WHOLE BLOOD OBTAINED BY VENOUS PUNCTURE
C.M. Nielsen, B.F. Vestergaard, I.C. Bygbjerg, P.B.
Bakilana, J. Hiza, J. Shao, K. Kuijlen (Univesity
Hospital, Copenhagen; Statens Seruminstitut,
Copenhagen, Denmark; Muhimbili Medical Centre, and
Nordic Clinic, Dar es Salaam, Tanzania)
- F.53 EPIDEMIOLOGY OF HIV INFECTIONS IN ITALIAN ARMY SOLDIERS
G. Cucciniello, M. Di Martino, M. S. Peragallo, E.
Astorre, G. Sarnicola (Comando dei Servizi Sanitari
dell'Esercito, Roma, Italy)
- F.54 SEROLOGICAL EVIDENCE THAT HTLV-I IS PRESENT AMONG
BELGIAN BLOOD DONORS
D. Wachel, P. Lèautaud, Ph. Gausset, J.F. De Caluwé
(IMC Ixelles, Brussels; CTS de Bruxelles, Brussels,
Belgium)

ABSTRACTS VOLUME

Thursday - Friday, October 8-9

ORAL SESSION 1 - 10

S.1.1 OVERVIEW OF THE GLOBAL AIDS EPIDEMIC

J.M. Mann, Special Programme on AIDS, World Health Organization, Geneva, Switzerland.

ABSTRACT NOT AVAILABLE AT TIME OF PRINTING

S.1.2 AIDS IN THE UNITED STATES: UPDATES, IMPLICATIONS, AND PERSPECTIVES

J.R. Allen, AIDS Program, Center for Infectious Diseases, Centers for Disease Control, Atlanta, Georgia, USA.

As of mid-September 1987, state and local health departments had reported a cumulative total of 41,250 cases of AIDS in adults and 575 cases in children (< 13 years of age) to the Centers for Disease Control (CDC). Known mortality was 57% for adults and 65% for children.

More than 53% of cases reported have been diagnosed since January 1, 1986. Two states--New York and California--have reported more than 21,000 cases, or 51% of the total. Five other states have reported 1,000 to 3,000 cases each. Almost 90% of adult cases were between 20 and 49 years of age at diagnosis; 65% of persons with transfusion-associated AIDS were 50 years of age or older. Almost 74% of cases have a history of male homosexual contact; 10% of these also have a history of intravenous drug abuse (IVDA). Of the 26% of cases in heterosexual persons, 62% have a history of IVDA, 8% are sexually acquired, 8% are transfusion-associated, 4% are in persons with clotting factor deficiency (hemophilia), and 11% do not have an identified risk factor. Although only 7% of adult cases are in women, 49% of them have a history of IVDA and 24% are sexually acquired. The proportion of sexually acquired cases in women has continued to increase in recent years. By race, 61% of cases are white, 24% black, and 14% Hispanic; the distribution of cases is disproportionately high in the black and Hispanic races, however, particularly for women and among the cases that are IVDA.

More than 78% of the children with AIDS are born to mothers with AIDS or at risk of HIV infection. The majority of mothers give a history of IVDA or they are sexual partners of men who abuse drugs. A disproportionate number are black (54%) or Hispanic (24%). The proportion of transfusion-associated cases has decreased since screening of blood was started in 1985.

Empirical models based on reporting of past cases indicate that by the end of 1991, approximately 270,000 cases of AIDS will have been diagnosed in the United States. Prevention programs are being given a high priority with emphasis on educational programs and risk reduction. Counseling and testing for HIV antibody, which is a useful adjunct to personal risk assessment, also are being given increased emphasis.

S.1.3

AIDS IN AFRICA

B. Kapita

Mama Yemo hospital, Kinshasa, Zaire

Central Africa is a region of high HIV seroprevalence. By March 1987, 4022 of AIDS have been reported to the WHO by 36 African countries. 17 countries have not yet reported anything and 15 countries have reported no AIDS patients. Before 1975, the infection was nearly non-existent in Africa. Since that time the infection has spread over the continent. HIV seroprevalence rose from 0% in 1975 to a range of 1 to 19% in 1987 in the general adult population of the affected countries with a 1% yearly HIV seroincidence. Cultural, socio-economical and ecological factors favour the transmission of HIV and explain the explosive increase of the number of AIDS patients in Africa. The varied and complex clinical picture of African AIDS patients includes several gastroenterologic, pulmonary, cardiac and neurological manifestations. Within 1 year, 2.3% of the asymptomatic seropositive patients develop AIDS, and 20.4% develop ARC. 50% of the asymptomatic seropositive patients experience a rapid decline of their general condition within 2 years. The mortality of AIDS is 100%. The socio-economical consequences of HIV infection have as yet to be evaluated.

The attitude of Africa towards foreign civilization should be selective. Concerning sexual behaviour Africa needs to reconsider traditional values.

S.1.4

DIAGNOSIS OF HIV INFECTION IN AFRICA

A.J. GEORGES, J.L. Lesbordes, P.M.V. Martin, M.C. Geoges-Cournot

Institut Pasteur of Bangui, B.P. 923, Bangui, Central African Republic.

In Africa, laboratory facilities are often insufficient to perform a reliable diagnosis of AIDS according to the CDC case definition. Since December 1985 we used a provisional case definition among patients from Central Africa (mainly CAR and Zaire) and related each to HIV antibodies (HIV.AB).

During an 18 month-period we examined 825 patients who fit with at least 3/12 symptoms listed in WHO-Bangui's clinical case definition of AIDS, and tested them for HIV.AB using Elisa. Twenty four out of 825 had Kaposi's sarcoma, 4/24 without HIV antibodies. Out of those of Elisa positive patients who were checked by Western-blot, only 71% were positive showing either anti GP 110, GP 41, or both with at time AB against other viral proteins.

During the same period the HIV seroprevalence in healthy adults varied between 4 and 7.8%. Therefore it is likely that some HIV 1 positive were not AIDS but ARC, and subsequently that there is a need for increasing the specificity of the provisional case definition we used.

By another way, serological data have been obtained in about 4400 randomly selected patients from Chad, Congo, Cameroon, CAR, Equatorial Guinea, and will be discussed. Elisa was positive in 253/4397 (5.9%), while WB (positive in 2.5% of the total), confirmed only 110/253.

Problems raised by WB interpretation such as presence of AB against Core or Gag-proteins in absence of anti-enveloppe products, as well as interpretation in Central African populations of apparent double infection (HIV 1 and HIV 2) must be known.

S.2.1 AIDS EPIDEMIC IN UGANDA
I.S. Okware, Ministry of Health, Entebbe, Uganda.

ABSTRACT NOT AVAILABLE AT TIME OF PRINTING

S.2.2 ADULT AND PEDIATRIC AIDS AND AIDS RELATED SYNDROME IN RWANDA.

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The AIDS pandemic has spread rapidly throughout the world since its discovery in 1981. The first suspected cases of AIDS in Rwanda were described in 1983. Ten cases were reported in that first year. Since that time the number of clinically apparent, ELISA positive cases has increased dramatically. By the end of 1986, 705 cases of AIDS or AIDS related complex had been officially reported by the National Diagnostic Center in the Capital city of Kigali, two hundred and forty six (35%) of them in children less than 15 years of age. The sex ratio was 1:1,4, supporting heterosexual transmission, as has been reported in other African Countries.

Available data indicate that the case fatality rate during the 3 year follow up is quite high: 117 deaths reported out of 705 cases (25%). This may, in fact be underestimate as some cases were lost to followup.

Concerning seropositivity, we anticipate more accurate data (the provenance of data) from the recently completed national survey. In the meantime, although AIDS is not yet listed among the leading causes of morbidity or mortality in Rwanda, Rwandan authorities have expressed their concern regarding this deadly disease. With the support of the Norway Red Cross and Belgian Red Cross, blood donors are now screened and the Minister of Health and Social Affairs has launched a national campaign to inform the public of the mechanism and prevention of HIV transmission as well as to the severity of the resulting illness.

S.2.3 THE EPIDEMIOLOGY OF HIV INFECTION IN ZAIRE
B. N'Galy, Hopital Mama Yemo, Kinshasa, Zaire

ABSTRACT NOT AVAILABLE AT TIME OF PRINTING

S.2.4 Serepidemiologic considerations on the detection of anti HIV1 antibodies in hospitalized patients and blood donors from different medical centers in Brazzaville.

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Serum samples taken from hospitalized patients with various signs and blood donors since October 1986 to February 1987 were tested for anti HIV1 antibodies by ELISA test. This test was repeated after 21 days on another serum sample by way of confirmation. Western blot could not be done because lack of local facilities. The results were :

a)- Among hospitalized children from 0 to 15 Years old the percentage of antibodies was 45,15. In adults, 37,83 from 16 to 19 years, 52,28 from 20 to 29, 63,02 from 30 to 39 and 55 from 40 to 50 years. There is no difference between male and female sex.

The risk factors were : multiple blood transfusion and blood components, using of non sterile needles and syringes and vertical transmission, in children. In adults, the same factors (without vertical transmission) were also observed with the heterosexuality contact.

The major signs described at who workshop on AIDS in Bangui were observed in adults. Among minor signs, herpes zoster and tuberculosis were very frequent. In children, weight loss and prolonged fever were the major signs but lymphadenopathy was minor sign very frequent.

b)- In blood donors, the mean carrier state of anti HIV1 antibodies was 6,99%. The association of anti HIV1 antibodies with HBs Ag was discovered in 4,84% donors.

Our results are similar to that of many authors in Central Africa.

S.2.5 AIDS EPIDEMIC IN CENTRAL AFRICAN REPUBLIC
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ABSTRACT NOT AVAILABLE AT TIME OF PRINTING

S.3.1 CLINICAL MANIFESTATIONS OF LAV type2 INFECTION.

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In 1986, a new type of human retrovirus named LAV type2 (LAV2) was isolated from AIDS patients (pts). Twenty medical records were reviewed in order to determine the main clinical manifestations of LAV2 infection. There were 13 men and 7 women aged 21 to 58 years (m:36.6) including 4 couples (3 heterosexual, 1 homosexual). Eleven patients originated from West Africa (Cape Verde:1, Ghana:1, Guinea Bissau:1, Guinea Conakry:1, Ivory Coast:2, Mali:1, Mozambique:1, Senegal:3), 5 from Portugal (all heterosexuals) and 4 from France (all homosexuals). All 20 pts were seropositive (ELISA, WB) for LAV2. Nine virus isolates were obtained. Ten patients had AIDS, 2 ARC, 5 other symptoms and 3 were asymptomatic. Among the 10 AIDS pts, 4 were Africans and 5 Europeans. It is noteworthy that 1 pt was an heterosexual Portuguese man who lived in Angola between 1968 and 1974 and died in 1980. His 1979 serum sample contain antibody to envelope of LAV2 and not that of HIV. Seven pts had OI, 1 OI and non-Hodgkin lymphoma (NHL), 1 NHL (large cell non-cleaved type in the 2 cases), 1 KS. The clinical picture was similar to that of HIV/AIDS pts. Four patients survived more than 15 months and in 3 cases more than 36. Some difference(s) in pathogenicity between HIV and LAV2 should be considered.

S.3.2 SOME CLINICAL ASPECTS OF AIDS IN UGANDA

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The commonest presentation is with Enteropathic AIDS characterised by fever, diarrhoea and weight loss. Oral thrush and a wide variety of skin manifestations are common accompaniments. Of 23 patients studied 48% had evidence of cryptosporidiosis and 13% had *Isospora belli* to explain the diarrhoea but colonic ulcerations by CMV has also been noted in others.

Pulmonary symptoms may represent activated or newly acquired tuberculosis which typically causes apical lesions. Out of 36 TB patients studied 22 were HIV-I seropositive and 13/22 patients sera stained HIV-I and HIV-2 infected cells. None of the 36 patients had antibody to HTLV-I. Unresolving pneumonia due to candida albicans or cytomegalovirus tends to cause diffuse opacities mainly in the mid and lower zones while Kaposi Sarcoma may give rise to perihilar or diffuse infiltrates and pleural effusions. Pneumocystitis carinii has not been seen.

Among cancers the most commonly seen is Aggressive Kaposi Sarcoma with nodules, facial oedema, generalised lymphadenopathy or visceral involvement. B-cell lymphomas and other cancers are rarely associated with AIDS.

Some patients present with neurological manifestations including psychiatric syndromes, signs and symptoms of increased intracranial pressure, paraplegia or hemiplegia and cranial nerve palsies.

A frequent finding among AIDS patients is cervical and axillary adenopathy. This is commonly due to tuberculous adenitis but cryptococcal spores, toxoplasmosis, non-specific inflammation and very rarely lymphoma have also been seen on histology.

A single episode of herpes zoster has a 90% correlation with seropositivity. Less common features include pyomyositis, a tendency to post-operative abscess formation, aggressive herpes simplex and other genital sores.

S.3.3

CLINICAL PRESENTATION OF SYMPTOMATIC PAEDIATRIC HIV INFECTION IN ZIMBABWE

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Clinical features of 185 cases of symptomatic HIV infection in children seen over a period of one and half years in Zimbabwe are reported. The children ranged in ages from 3 weeks to 11 years. 82.2% were below the age of 2 years at presentation. The male/female sex ratio was 1:1.03. The main presenting clinical features were generalized lymphadenopathy (54.4%); pulmonary infiltrates (45.4%); failure to thrive and marasmus (37.8%); hepatomegaly (34.6%) and splenomegaly (26.0%). Candida stomatitis was present in 23.2%, chronic/recurrent diarrhoea in 21.0%, and persistent or recurrent skin rashes in 10.8%. Less commonly associated features included parotid swellings (6%), chronic suppurative otitis media (4.3%) and symptomatic thrombocytopenia (1.6%). Four children (2.1%) presented with purulent meningitis and another three (1.6%) with non-specific encephalopathy. Kaposi sarcoma (lymphadenopathic type) was histologically diagnosed in one child.

Diagnosis of HIV related disease was established on the basis of a constellation of the above features and positive HIV serology by Eliza test, confirmed by Western blot analysis. All mothers were positive for HIV infection except for 3 cases of suspected blood-product transfusion (2 sickle cell anaemia and one haemophilia) and three others whose mothers were not available for testing. This highly suggests that vertical perinatal transmission from infected mother to child was the major mode of transmission in these children. Paediatric HIV related diseases is increasingly becoming an important child health problem in those countries in Africa where adult sero-prevalence rates for HIV is relatively high or increasing.

S.3.4

CLINICAL ASPECTS OF AIDS IN ZAIRE

W. Odio, Kinshasa, Zaire.

ABSTRACT NOT AVAILABLE AT TIME OF PRINTING

S.3.5 PROSPECTIVE STUDY OF CLINICAL MANIFESTATIONS AND OPPORTUNISTIC INFECTIONS IN PATIENTS WITH ACQUIRED IMMUNODEFICIENCY SYNDROME AT KENYATTA NATIONAL HOSPITAL IN NAIROBI, KENYA

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A total of 20 patients with confirmed diagnosis of Acquired Immunodeficiency Syndrome were followed up between September 1985 and June 1987 in the dermatology clinic at Kenyatta National Hospital in Nairobi. Spouses and their children age 4 years and below were screened for HIV antibody using ELISA method technique. Patients were reviewed in the clinic at an interval of 2 weeks for 2 months and later at every 4 weeks. The clinical assessment, attitude and behaviour among the patients, their spouses and significant others were observed. Oral candidiasis herpes zoster, loss of weight, marked lymphadenopathy and seborrhoea dermatitis were among the common clinical manifestation in our AIDS patients. Cases of disseminated Kaposi's Sarcoma associated with AIDS have been reported in some parts of African countries. However, some cases of nodular Kaposi's Sarcoma commonly seen in Kenya have been found seropositive for HIV antibody test. Pneumocystis carinii pneumonia apparently appear to be very rare among our AIDS patients but diagnostic facilities are required to justify this. In my experience, life expectancy of patients with full blown AIDS ranges between 4 to 9 months but can be shorter. Other infections, such as TB, Cryptococcus and Toxoplasmosis require an urgent epidemiological studies and clinical follow up in Africa.

S.4.1 SOME ASPECTS ON THE EPIDEMIOLOGY OF AIDS IN TANZANIA,
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AIDS is a great public health concern in Tanzania as it is in many other countries in the world. Since the first cases appeared in late 1983 up to the middle of April 1987, 1130 cases had been notified with more than 60% of the cases originating from the north west part of the country, but an increasing number of cases is continuing to appear from all other parts of the country. High risk groups for AIDS in the country include promiscuous heterosexual adults, recent recipients of blood transfusions, children of mothers with HIV-infections and very rarely homosexual males. Intravenous drug abuse is not a risk factor.

The epidemic can be brought under control if measures to health educate the public, screen blood donations and to introduce pre-marital counselling including screening for infection before marriage and during early pregnancy can succeed. Meanwhile research on the problem should continue in order to develop better and easily accessible control measures.

S.4.2 HIV ANTIBODY PREVALENCE IN BLOOD DONORS AND BLOOD RECIPIENTS IN YAOUNDE-CAMEROON
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 Hopital Central Yaounde, G. Garrigue², J.P. Durand² Centre Pasteur Yaounde
 CAMEROON

A total of 2,475 blood samples from blood donors and 512 samples from blood recipients were tested for HIV antibody. Blood recipients were mainly made of sickle cell anemia patients, some of whom have received more than ten blood transfusions during the past ten years. The fresh sera were screened with Eshring Elisa test and positive cases were confirmed by Westernblotting. HIV antibody prevalence among blood donors was: 13/2475 (0,52 %) among blood recipients it was 6/512 (1,15 %).

The prevalence of HIV antibody among blood recipients is quite low compared to what it is in some neighbouring countries. The low prevalence of HIV antibody among blood recipients is an evidence that the virus was introduced recently in this part of the world. The prevalence of HIV antibody among blood donors is also very low. These results are in agreement with those found in the general population by many seroepidemiological surveys using the cluster sampling method.

In conclusion the low prevalence of HIV antibody in blood donors in Yaounde and in patients who have been receiving blood transfusions for the past ten years suggests that Cameroon is a pre-epidemic area for AIDS and that preventive measures taking right now can stop or at least slow the spread of the infection.

S.4.3

CLINICAL CORRELATES OF RETROVIRAL (RTV) SEROLOGICAL PATTERNS IN NIGERIANS. C.K.O. Williams*, C. Saxinger**, G.A. Alabi*, A. Levin**, S. Alexander***, A. Bodner****, P.C. Gallo**, H.A. Blattner**, *University of Ibadan, Nigeria, **National Cancer Institute/NIH, Bethesda, MD, USA, ***Biotech Research, Inc., MD, USA.

Infection by HTLV-I and HIV-I was assessed among Nigerian blood donors (NBD) and school children (NSC), and in patients (pts) with neoplastic (ND), immunodeficiency (ID) and other chronic disorders using serum samples collected at Ibadan between Oct. 1982 and Nov. 1985. Samples were tested by whole virus ELISA for RTV antibodies (ab), and those giving CD ratios (EODR) of > 2.0 with HTLV-I or > 5.0 with HIV-I were subsequently tested for confirmation by an immuno-competition assay and Western blot (WB). The results were classified as "seropositive" (S+ve) if WB had unequivocal multi-band reactivity to viral gag (gg), gag precursor (gpp) and envelope proteins, and as "reactive indeterminate" (RI) if there were only single or multiple gg and/or gpp bands present; and "negative" if WB was devoid or reactivity. Diagnosis (Dx) of Adult T-cell leukaemia/lymphoma (ATL) was based on presence of cutaneous manifestations (8/10), hypercalcaemia (3/10), bone \pm marrow involvement (7/10) and leukaemic blood picture (3/10), while ID was characterized in 10 pts by protracted fever (8/10), weight-loss (9/10), generalized lymphadenopathy (7/10), opportunistic infection (4/8), generalized exfoliative dermatitis 6/10, chronic diarrhoea and inversion of CD4/CDB ratio (mean: 0.3 in 7 pts). The following serological patterns were observed:

Dx	HTLV - I Serology				HIV - I Serology				TOTAL
	EODR	WB - n (%)	S+ve	ND	EODR	WB - n (%)	S+ve	ND	
NBD	42	29 (28.7)	1 (1.0)	23	116	2 (1.7)	0	2	124
NSC	19	7 (36.3)	0	22	50	0	0	0	50
ATL	1	2 (37.5)	2 (25.0)	2	7	0 (0.0)	0	2	10
Lymphomas	39	17 (21.3)	2 (2.5)	9	69	0 (0.0)	0	5	89
BL	23	10 (15.4)	0	1	35	0 (0.0)	0	1	40
ALL/CLL	28	11 (8.9)	2 (4.4)	3	43	1 (3.6)	0	1	48
AML/CM	7	7 (16.3)	1 (6.3)	1	15	0 (2.1)	0	0	17
Other ND	8	4 (25.0)	0	8	20	0 (4.6)	0	0	24
LHSH/ID	3	3 (14.3)	0	1	4	1 (37.5)	0	0	8

LHSH/ID = Lymphadenopathy \pm hepatosplenomegaly \pm dermatitis; ALL/CLL = Acute/chronic lymphoid leukaemia; *Including 3/4 (75%) squamous carcinoma head/neck (SC-IM) and 1/3 hepatomas (HPH) AML/CM = Acute/Chronic myeloid leukaemia.

RI pattern was also observed in 5/9 (55.9%) with HIV-I, 0/9 with HTLV-IV and 2/9 with LAV-2 antigens among the 10 ID pts. We conclude that typical HTLV-I infection is rare in Ibadan, but it does occur in NBD and in association with clinically typical ATL. Unexpectedly, cases with features of ATL but negative for HTLV-I ab occur with unusual frequency. Atypical HTLV-I sero-reactivity (s-rcty) was found equally frequently in NBD and various pt populations and, thus, may not be a marker of a pathogenic agent. Conversely, while there were no HIV-I s+ve cases in our study, atypical HIV-I s-rcty was unusually high in ID - thus x-reacting RTV cannot be excluded.

S.4.4

HIV INFECTION IN GHANA

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Serological testing for antibodies to the Human Immunodeficiency Virus (HIV) was started in Accra, Ghana, in February 1986. Subjects screened included (a) Healthy people including blood donors, hospital workers and healthy prostitutes working in Accra/Tema and (b) Diseased people from the Sexually Transmitted Diseases Clinic, Patients presenting with symptoms suggestive of AIDS and malignancies.

Up to 31st July, 1987, 212 subjects were found to be HIV seropositive both by Elisa (Wellcozyme) and Indirect Immunofluorescent Antibody Technique (IFAT) or Western Blot (WB). 96 patients (45.3%) had full blown AIDS, 63 (29.7%) had AIDS Related Complaints (ARC), 22 (10.4%) were asymptomatic and 31 (14.6%) status unknown. There was evidence of antibodies to a second retrovirus very closely related to the Simian Immunodeficiency Virus (SIV). The SIV antibodies were found in 18 individuals, some of whom had features of full blown AIDS. This virus awaits classification. The male:female ratio was 1:8 which is different to figures quoted from Central African countries. The reason for this, we concluded, is due to the fact that HIV infection is restricted to a specific group and that the infection is only recently being introduced into the general population. We therefore believe that Ghana may be in a position, with a properly planned intervention strategy, to modify the rate of spread of AIDS.

S.4.5

HIV-1 AND 2 INFECTIONS IN IVORY COAST, WEST AFRICA : EPIDEMIOLOGY AND CLINICAL ASPECTS.

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In a seroepidemiological survey covering various parts of Ivory Coast, we observed a low prevalence (around 1 %) of infection in the general Ivorian population. The prostitutes however exhibited a higher prevalence, varying from 16 % to 65 %.

Sera collected from patients with AIDS, according to the WHO Bangui definition, showed in 30 % of the cases antibodies to HIV1 alone, in 20 % antibodies to HIV2 and in 50 % antibodies to both HIV1 and HIV2 env and gag antigen. Moreover, we tested 23 sera collected in April 1986 from asymptomatic prostitutes living in Abidjan. Twelve sera had antibodies to HIV-1 and 11 sera had antibodies to both HIV1 and HIV2.

These results demonstrate that AIDS in Ivory Coast is associated with both HIV1 and HIV2 infections. Sera exhibiting antibodies to both HIV1 and HIV2 glycoproteins might reflect either a double infection or possibly an infection by a recombinant HIV1/HIV2 virus./

S.4.6

HIV AND RELATED VIRUSES IN SENEGAL

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After the recent discovery of HIV-2/HTLV-4 human retroviruses in Senegal and West Africa, epidemiological studies have been performed on selected populations in different regions of Senegal. Individuals have been classified in three groups: a) High risk group including prostitutes and sexually transmitted disease patients, b) Hospitalized patients and Healthy adults as control population.

HIV antibody screening were performed by ELISA (Abbott laboratories) and rescreened by Western Blot or radioimmunoprecipitation/ SDS-Page using HIV-1/HTLV-3B and HIV-2 HTLV-4 as viral antigen.

Results shows fluctuation in seroprevalence for HIV-2/HTLV-4 type of viruses from 0.1 to 45% depending upon the region of the country and upon the population under study. The HIV-1 seroprevalence, however, was constantly low (0.1%).

In contrast with what has been described for HIV-1 infection, we did not observe a strong correlation between AIDS-like syndromes and high seroprevalence for HIV-2 HTLV-4 in Senegal. We also observed a very low seroprevalence of HIV-2 in hospitalized patients (0.1%) in an area where prevalence is 40% in high risk groups.

In conclusion: 1) the two types of human retroviruses are present in Senegal with a low seroprevalence for the HIV-1 and a geographically variable seroprevalence for the HIV-2 type. 2) The pathogenicity of HIV-2 as compared to HIV-1 seems to differ, with HIV-1 being more pathogenic than HIV-2.

Further prospective studies are required to provide more information on the pathogenicity of HIV-2 type of viruses.

S.4.7

ANTIBODY PREVALENCE TO HIV IN TUNISIA

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Tunisia has 7.200.000 inhabitants. 400.000 of them are emigrant workers in Europe and in Middle East and 1.500 are students coming from African countries to stay in Tunis. 2.000.000 tourists visit the country each year.

As of August 1987, 11 cases of AIDS, 7 cases of ARC, 55 cases of seropositivity have been declared to the Ministry of Public Health, affecting mainly tunisian emigrate homosexuals and drug abusers, hemophiliacs, tourists, students from Zaire and Congo and clandestine prostitutes having resided for prolonged period of time in Italy.

From 1985 to 1987 we have carried out the following study:

- Screening of 643 sera from Kaposi's sarcoma and Xeroderma pigmentosum patients, their relatives and control groups collected between 1971-1975.
- Surveillance of 1.472 blood donors from different areas of the country.
- Surveillance of some risk groups such as: 373 prostitutes, 72 homosexual men, 452 navigators, 14 patients with recurrent sexually transmitted diseases, 53 patients with lymphoma, Xeroderma pigmentosum or Kaposi's sarcoma, 13 african students.

From these studies, it appears that:

- HIV infection started in Tunisia in 1984.
- No serum showed positive results against HIV-2 (LAV-2 and HTLV-IV).
- The seroprevalence of HIV is at this moment very low (0.13%) and the major risk factor seems to be sexual practices and drug use abroad.
- The HIV infection is the growing problem because of presence of HIV in the country and the transient population.

A global strategy has been introduced by the Authorities to limit the extension of the epidemic.

S.5.1

NATURAL HISTORY OF HIV INFECTION IN AFRICAN PATIENTS.

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During a 4-year period we surveyed in Brussels 174 HIV seropositive Central African patients identified by ELISA and Western blot techniques. There were 90 males (mean age : 36y.) and 84 females (mean age : 29y.). None of the patients recognized homosexual practice nor IV drug use. 5 (3%) had a previous history of blood transfusion during the last 10y. All people were examined at at least a 3 mo period during a mean of 16 mo. According to their clinical and immunological status, they were classified as healthy asymptomatic (stage I) (n=26), lymphadenopathy (stage II) (n=45), AIDS-Related Complex (stage III) (n=77) and AIDS (stage IV) (n=26). During the study period no healthy seropositive developed signs or symptoms of HIV infection. 3 out of 31 patients (10%) at stage II developed AIDS after a mean evolution of 33 mo (range : 25-37) (annual rate of progression to AIDS of 3.6%). 26 out of 73 patients at stage III (36%) developed AIDS at a mean time of 12 mo (range : 4-25) (annual rate of progression of 36%). 32/53 patients (60%) with AIDS died after a mean evolution of 10 mo (range : 1 to 37 mo).

The rate of progression documented in this study is similar to the one observed among homosexuals or bisexuals from San Francisco. Thus, there are no evidence that HIV infection in Africa is more aggressive than in Western countries. Our rates of progression from LAP to AIDS or from ARC to AIDS are also similar to those reported among homosexual or bisexual males who, in most of them, had generalized lymphadenopathy at the entry in the study. In our cohort, the rate of progression to AIDS was higher in patients with constitutional symptoms than among those with LAP alone, suggesting that the classification into four stages could be of prognostic value.

S.5.2

PATHOLOGY OF AFRICAN AIDS

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Little is published on morbid anatomy of African AIDS. From observations of cases of HIV infection in Uganda, Zambia, Zimbabwe, Tanzania and Gambia, many aspects are similar to those seen in developed countries. Some differences are seen in dermatological, gastrointestinal and lymphoreticular manifestations.

KAPOSI'S SARCOMA: lesions show histopathological overlap between HIV+ and HIV- cases, with a tendency for early 'plaque-type' lesions in HIV+ lesions.

PRURITIC MACULO-PAPULAR RASH: 20 biopsied cases in HIV+ Ugandans showed dermal oedema, arteriolar endothelial cell hypertrophy, perivascular mononuclear inflammation, and pigment incontinence in later cases. Notable eosinophil infiltrate in 3/20 cases only. Aetiology is unknown.

'SLIM' DISEASE: of 23 Ugandan cases, faecal smears showed *Cryptosporidium* oocysts in 11 and *Isospora* oocysts in 3 (total 61%). *Microsporidia* identified on biopsy in 2/23 cases. Duodenal biopsies showed significant crypt hyperplastic atrophy in 16 (70%). Intra-epithelial lymphocytes were increased except in 3/4 histologically identified cases of cryptosporidiosis. Aetiology of 'slim'-diarrhoea is multifactorial.

LYMPHORETICULAR: 4/4 lymphomas (3 extranodal) in HIV+ patients were B-cell Burkitt-like lymphomas. 3 expressed activation markers (BerH2) suggestive of Epstein-Barr virus activation. Tuberculous lymphadenitis often precedes clinical AIDS; the pathology is unusual and predominantly poorly reactive and multi-bacillary, indicating immune deficiency.

Other systemic and neurological infections noted in African AIDS cases include cryptococcosis, toxoplasmosis, cytomegalovirus, and progressive multifocal leukoencephalopathy.

Et

E. Ddumba**, W. Wamukota**, R. Goodgame**.

S.5.3 NEUROLOGIC MANIFESTATIONS OF HIV IN ZAMBIAN PATIENTS WITH AIDS/HIV
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Central and Peripheral nervous system involvement by the virus of Acquired Immunodeficiency Syndrome had been recognised in the United States since 1983.

However, there are only few reports in the African literature on AIDS and Nervous System Involvement.

During the period 1st January, 1986 to 30th June, 1986 25 patients (21%) out of 115 total patients with the HIV or the Acquired Immunodeficiency Syndrome either presented with or developed signs and symptoms of Nervous System Involvement. Only 2 (8%) had CNS involvement as the manifestation of the infection.

Acute confusional state with or without focal signs was the commonest presentation occurring in 10 patients. One patient had retinal haemorrhage. CSF was unhelpful in either diagnosis or predicting prognosis.

Mortality rate in the 25 patients was 80% during the study period and occurred within less than six weeks in the patient who had retinal haemorrhages.

In our series CNS involvement appears to have a serious prognostic significance.

S.5.4 A GENERAL SURVEY ON KAPOSI'S SARCOMA
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S.5.5

KAPOSI'S SARCOMA IN AFRICA

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In Lusaka, Zambia, two distinct clinical types of Kaposi's Sarcoma have co-existed since 1982. The incidence of endemic disease (KS) is constant at 10 to 12 new cases a year, although 1 in 4 patients are seropositive for antibodies to the human immunodeficiency virus (HIV).

In contrast, since 1982 new patients with atypical African Kaposi's Sarcoma (AAKS) have increased in number from year to year on an exponential curve. The clinical features, response to treatment and survival times of 200 consecutive patients with AAKS will be discussed. In order to stratify patients for entry to drug trials, and to evaluate therapy, an assessment score will be proposed.

AAKS in Lusaka is no longer confined to higher socio-economic groups. At presentation most patients have symmetrical lymphadenopathy with or without cutaneous plaques on the proximal parts of limbs, trunk, head or neck. Nodules on the extremities remain rare. Opportunist infections are common at diagnosis and surgical sepsis has become a management problem. Gastrointestinal lesions are suspected in over half of patients and two presented in 1986 with intussusception requiring bowel resection. Pulmonary disease is increasing in frequency and is associated with early relapse after chemotherapy.

Analysis of the course of AAKS will concentrate on :

- i patients who respond to chemotherapy and survive with stable disease for more than one year
- ii the timing and pattern of disease progression in patients who had an initial response, and the effect of secondary chemotherapy
- iii characteristics of patients who do not respond to treatment.

S.5.6

KAPOSI'S SARCOMA ASSOCIATED TRANSFORMING SEQUENCES.

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Kaposi's Sarcoma (KS) is the neoplastic disease most frequently associated with immune deficiency syndromes epidemically transmitted (AIDS) or drug induced (immune suppressive therapy in transplants). To identify possible oncogenes involved in the transformation process, we have transfected NIH3T3 cells with DNA extracted from a KS tissue. Several primary transformants, containing human repetitive DNA, were identified and shown to be anchorage independent and tumorigenic in nude mice. DNA extracted from such clones were transfected in NIH3T3 cells for a second round of transfection. An average of 5 secondaries were tested for a total of 12 primaries. Because our probe pBlur8, a plasmid containing human repetitive sequences of the Alu family, crosshybridizes to mouse repetitive sequences and presents 70% homology to the human repetitive sequences retained in these secondaries, multiple restriction enzyme analysis and hybridization at various stringent conditions had to be used to identify new, specific sequences.

A genomic library was then constructed in BamHI arms of EMBL-3 phage of MboI partially digested DNA extracted from the secondary transformant NNV-5/2. 1.5×10^6 phage were screened by the Benton and Davis assay and a single clone retaining human sequences was identified. Such recombinant phage contains a 18.2Kb genomic insert; Alu homologous sequences are contained within a 5.4Kb BamHI fragment. We are in the process of identifying and characterizing possible human unique sequences

S.5.7

MOLECULAR CHARACTERIZATION OF KAPOSI'S SARCOMA AND VASCULAR ENDOTHELIUM. B. Ensoli*, L. Larson*, S. Nakamura*, Z. Salahuddin*, B. Beaver*, P. Biberfeld**, F. Wong-Staal*, and R. C. Gallo*. *Laboratory of Tumor Cell Biology National Cancer Institute Building 37, Room 6A09 Bethesda, Maryland 20892.

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Cultures of Kaposi's Sarcoma (KSE) and Umbilical Vein (UVE) derived endothelial cells were studied by Northern Blot techniques for mRNA expression of various growth factors and cytokines. Clear differences were observed between these cell cultures. All the KSE cultures tested (6) showed strong to significant messages for Basic Fibroblast Growth Factor (bFGF) (+++), Acidic Fibroblast Growth Factor (aFGF) (+), Transforming Growth Factor beta (TGFB) (+), Interleukin-I alpha (IL-1) (+) and IL-1B(+++). In parallel studies, the UVE cells showed significant hybridization only for TGFB and HLA-DR, in addition to a weak hybridization to a FGF. No significant mRNA for B-cell Growth Factor (BCGF), Colony Stimulation Factor-I (CSF-I), Interferon gamma (IFN), TGF, TCGF, (IL-2), TNF, TNFB, Granulocyte - Monocyte Colony Stimulating Factor (GM-CSF) were demonstrable in either KSE or UVE. Furthermore, KSE cells did not produce detectable levels of mRNA for HLA-DR. The observed characteristics of KSE cells could reflect either properties intrinsic to the endothelium of Kaposi's Sarcoma or differences in the origin of KSE and UVE cells.

S.5.8

BK VIRUS DNA IN KAPOSI'S SARCOMA

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S.6.(A)

ROUNDTABLE DISCUSSION: LABORATORY DIAGNOSIS OF HIV INFECTION IN AFRICA
PANEL MODERATOR: F. Brun-Vezinet, Hopital Claude Bernard, Paris, France

Panel Members:

- K. Mulanga, Mama Yemo Hospital, Kinshasa, Zaire
- T.C. Quinn, Johns Hopkins Hospital, Baltimore, MD, USA
- R. Mwendapole, Tropical Research Centre, Ndola, Zambia
- J. Scheffel, Abbott Laboratories, Chicago, IL, USA
- J.P. Galvin, DuPont de Nemours & Co., Wilmington, DE, USA
- C. Roberts, Wellcome Diagnostics, Temple Hill Dartford, UK

S.6.(B)**LABORATORY DIAGNOSIS OF HIV INFECTION IN AFRICA**

F.BRUN-VEZINET - Hopital Claude Bernard, Paris, France.

In some central african cities between 6% and 18% of the blood donors are infected by the Human Immunodeficiency virus type 1 (HIV-1). The HIV-2 seroprevalence rate among blood donors in west african cities ranged from 2 to 9%. Moreover in some cities, as Abidjan, HIV-1 and HIV-2 are equally present. Laboratory diagnosis of HIV infection in Africa is a first public health priority to control HIV infection by blood bank screening as serological surveys. Detection of virus specific antibodies in sera is the most practical method to diagnose HIV infection. Enzyme linked immunoassay (EIA) for detection of HIV-1 antibodies were commercially available since 1985. A HIV-2 EIA and a mixed HIV-1/HIV-2 EIA have been recently proposed African Sera are known as "sticky" sera causing spurious results due to immune complex, hypergammaglobulinemia or autoantibodies. But several first generation EIA using purified whole virus lysates have proved to be highly sensitive and of good specificity. Even if repeatedly positive result by EIA allow to discard presumably infected blood donations, a confirmatory test is mandatory to inform seropositive subjects as to perform serological surveys. The routine confirmatory assay is the Western Blot (WB). Only sera presenting antibodies to the env glycoproteins of HIV-1 (gp110, gp41 and their precursor gp160) or HIV-2 (gp130/140, gp32/41) are considered positive for HIV-1 or HIV-2 antibodies. Current tests for antibodies to HIV require expensive equipments and materials which are scarce in Africa and other developing countries. There is an obvious need for rapid, easy and economical screening test. Several are currently testing : a dot EIA with recombinant E.Coli HIV-1 protein, a rapid latex assay using HIV-1 recombinant env, a dot EIA with two different synthetic peptides (env transmembrane glycoproteins) specific for HIV-1 and HIV-2.

S.7.1

HIV in Africa

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HIV and HIV related viruses of human or simian origin are a new group of retro-lentiviruses which share the following characteristics :

- 1) a complex genome structure with 4 or 5 genes coding for non structural proteins, most of them located between pol and env genes.
- 2) a condensed truncated nucleocapsid in mature virions.
- 3) a high affinity for cells harbouring the T₄ (CD4) molecule.
- 4) lack of transforming activity with induction of cytopathic effect in infected cells.
- 5) a large potential for genetic variability.

The prototype virus HIV-1 has widely spread in Central Africa possibly for more than 20 years, and show a large spectrum of variation while keeping some conserved epitopes in glycoproteins of the viral envelope.

The second type of virus which has been also well characterized, HIV-2 is largely restricted, up to now, to the Western part of Tropical Africa. Its genome is less than 50 % homologous to that of HIV-1 viruses of African or American origin. Its close relationship with some SIV's suggests that it may have had a simian origin. The origin of HIV-1 may also be similar although there is no obvious links with simian viruses so far characterized.

S.7.2

HTLV FAMILY - AIDS AND CANCERS

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S.7.3

THE BIOLOGY OF HIV-1 and HIV-2 IN AFRICA

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It is now well recognized that there exist at least two types of Human Immunodeficiency virus (HIV), including the prototype AIDS virus, HIV-1 and HIV-2 which is most closely related to Simian T-lymphotropic virus type 3 (STLV-3). HIV-1 and HIV-2 are both antigenically and genetically related, and both demonstrate similar tropism to the T4 lymphocyte. Due to extensive crossreactivity between many of the viral antigens of HIV-1 and HIV-2, confirmatory assays such as western blot or radioimmunoprecipitation are required to distinguish these viruses.

Large scale seroepidemiologic studies have indicated significant differences between HIV-1 and HIV-2. We have surveyed over 6000 samples from 7 Central African countries and 6 West African countries. All serum samples were analyzed by western blot and radioimmunoprecipitation for antibodies to HIV-1 and HIV-2/HIV-4. Healthy control, high risk, hospitalized patients, ARC and AIDS patients were examined. HIV-1 is seen at relatively high rates in Central Africa but appears rare in most West African countries. HIV-1 seropositivity was highly correlated with AIDS or AIDS-like syndromes. In contrast, HIV-2 was seen in West Africa predominantly with infrequent association with AIDS. Further studies are necessary to clearly define the biology of these distinct virus types.

S.7.4

THE IMMUNOBIOLOGY OF THE EXTERNAL ENVELOPE VIRAL GLYCOPROTEIN

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The interaction of gp120 with the CD4 surface lymphocyte marker is critical for the processes of virus infection and virus mediated cell/cell fusion. We have examined the relationship between the segments of gp120 responsible for each of these activities as well as those serving as target epitopes for virus neutralization. These results will be discussed in terms of vaccine and interventive strategies for the disease.

S.8.1

HTLV-III/LAV INFECTION IN CENTRAL AFRICA

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We describe here several African isolates of HIV, compared them to U.S.-European prototype isolates and to each other, correlate the number of isolates with serological results, and provide insights into the disease spectrum associated with HIV infection in Africa. Three of 25 healthy Zairian donors and 54 of 87 Zairian patients selected for specific pathology and hospitalized in the internal medicine department of the University Clinic of Kinshasa, Zaire, were HIV positive over a six month period in 1985 either by serum antibody (42 cases) or virus isolation (40 cases). The virus positive cases showed a decrease in number of T4 cells and interleukin-2 (IL2) production by mononuclear cells. Restriction endonuclease analysis of HIV sequences from these isolates showed that genomic diversity is also observed in the Zairian isolates but closely related viruses could also be found, similar to the spectrum of diversity among isolates obtained from the U.S. and Europe. A number of isolates (12 of 40) were obtained from serum antibody negative adults. These are difficult to explain by viral antigenic diversity only since hybridization with a HTLV-III-B (clone BH10) probe under stringent conditions indicated an overall high degree of relatedness. Rather, these results indicate that some African HIV infected patients fail to make detectable antibodies to HIV or the antibodies were bound in immune complexes not detectable by current techniques.

S.8.2

Molecular Cloning and Nucleotide Sequence of a Highly Cytopathic Strain of Human Immunodeficiency Virus

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The highly cytopathic strain, HIVNDK, has been isolated from a Zairian AIDS patient. This strain is related to the HIV1 group; it is very cytopathic *in vitro* on T lymphocytes and on T lymphoblastoid cell lines. On MT4 cells, the comparison with HIV1 prototype indicates a cytopathic effect 10⁴ times greater for HIVNDK. Moreover, the Zairian patient infected his wife who later infected her lover and all were presenting clinical symptoms of AIDS in a very short period of time. In order to determine which genomic regions could be involved in these differences, the complete genome of this isolate has been cloned and sequenced. The results show a similar genomic organization for this isolate as all other HIV1 sequenced isolates. Preliminary analysis indicates 72 % homology between HIV1 prototype and HIVNDK; however 90 % homology has been found between HIVNDK and HIVELL, another Zairian isolate which is not specially cytopathic. Therefore, the biological differences between HIV1 and HIVNDK are probably due to small amino-acid differences.

S.8.3

COMPARATIVE ANALYSES OF THE STRUCTURAL AND REGULATORY GENES OF STLV-III AND HUMAN IMMUNODEFICIENCY VIRUSES. C. Gurgio*, S. Colombini-Batch***, H.G. Gue***, E. C. Malti**, G. Franchini**, M. Reitz**, P. Wong-Staal**, and R.C. Gallo**, *C.E.O.S. (IGR), Naples Italy, **National Cancer Institute/NIH, Bethesda, Md. USA.

The complete structure of the simian T-lymphotropic virus STLV-III has been determined and compared to that of prototypes of the human immunodeficiency viruses HIV-1 and HIV-2. Several cDNA clones corresponding to functional genes of STLV-III (tat, art/trs, and 3'orf) were obtained, and one clone competent for transactivation was sequenced. The simian and human viruses share the same genomic organization. STLV-III is more closely related to HIV-2 and more distantly related to HIV-1, sharing 72% and 43% of overall amino acid homology, respectively. Sequence comparison among corresponding genes of the more distantly related STLV-III and HIV-1 and alignment of the predicted amino acid sequences revealed features relevant to the localization of the functional domains of tat and 3'orf, despite low homology. When the env gene of STLV-III was compared with that of several HIV-1 isolates, including 2 new isolates, the observed homology was 35-45%; it was about 70% between STLV-III and HIV-2. The pattern of localized secondary structures of the simian env protein appeared very different from that of HIV-1. Close nucleotide alignment is possible only in a few areas of the env gene. However, the regions of homology correspond to the constant regions of HIV-1, and the pattern of distribution of cysteine, is highly conserved. This suggests that the env proteins of the different viruses share a common backbone structure and that the homologous conserved regions are the site of important functions, such as the binding to CD4. In the region of the STLV-III env gene corresponding to the transmembrane protein, a stop codon precedes by 145 amino acids the env termination codon homologous to that in the HIV-1 gene.

S.8.4

NEUTRALIZATION OF AFRICAN HIV-1 AND HIV-2

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Human sera from West African and East African subjects were characterized for antibodies reacting with envelope glycoproteins of HIV-1 and HIV-2 isolates by radio-immuno-precipitation assay (RIPA) and by competition ELISA. In both tests, the great majority of sera from infected subjects reacted specifically with either HIV-1 or HIV-2 envelope antigens. However, a small proportion reacted in RIPA strongly with HIV-1 and also weakly with HIV-2. All sera reacting solely or mainly with HIV-1 by RIPA neutralized HIV-1 isolates but not HIV-2. Seven diverse isolates of HIV-1 were tested for susceptibility to neutralization, and three diverse isolates of HIV-2. Among the HIV-2 specific sera, all neutralized each of the HIV-2 isolates, but some additionally neutralized HIV-1 isolates at lower titre. While several distinct neutralization epitopes are expressed on HIV envelope glycoproteins, an epitope common to HIV-1 and HIV-2 may present a useful target for the development of cross-protective vaccines.

S.8.5

VALUE OF A COMPARATIVE GEOGRAPHICAL APPROACH OF HIV INFECTION AND OTHER VIRUSES AS CO-FACTORS IN DISEASES ASSOCIATED WITH HIVS

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The number of known retroviruses in Africa increases steadily with time, either due to the existence of multiple retroviruses since a long time in this continent, or possibly to the emergence of new retroviruses due to genetic recombination between human and subhuman primate retroviruses.

The second fact which renders the African situation complex, is that viruses such as Hepatitis B virus or Epstein-Barr virus may act as critical co-factors in certain complications and clinical manifestations of HIVs infection. Results from ongoing studies on HTV-1 and neuromyelopathies in the Caribbean area and Africa will be presented. Prevalence of HIV-1 and HIV-2 in Ivory Coast and Congo will be given. Both HIV strains are present and most probably pathogenic in that part of West Africa, without evidence of cross protection between them. Data from Brazzaville and Tanzania will be discussed as well as analysis of available data concerning sera collected ten years ago.

Proposals for increasing collaboration between research laboratories, epidemiologists and clinicians in Africa will be made.

S.8.6

HIV AND HCMV IN IMMUNODEFICIENCY AND CANCERS. J.K. McDougall. Fred Hutchinson Cancer Research Center, Seattle, U.S.A.

One of the consequences of Acquired Immune Deficiency Syndrome (AIDS) is an increased risk of malignancy, especially Kaposi's Sarcoma. For many years, cytomegalovirus has been implicated as having an etiological role in the development of this and other human tumors. Cytomegalovirus infections are also very common among AIDS patients as are infections by other members of the herpesvirus group. If HCMV or other herpesviruses have a role in the development of human tumors, it is extremely important to fully understand their oncogenic potential. To this end, the genes of HCMV that can transform cells to a tumorigenic phenotype have been defined. Infection with HCMV is found worldwide and most frequently is of no obvious clinical consequence. It can, however, be associated with a wide spectrum of disease, particularly when infection occurs in a developing foetus or in an immunocompromised individual. A proportion of normal adults experiencing primary infection will develop mononucleosis or, rarely, a form of hepatitis or encephalitis. The extent to which the diversity found among HCMV strains is reflected in biological and functional differences is not known. The potential for HCMV strain differences influencing disease, perhaps by variation in efficiency of replication, or differences in cell tropism or ability to establish persistent or latent infection, has not been explored.

As an initial step in studying the significance of HCMV strain variation we have mapped and compared the EcoRI and HindIII restriction sites and in the long and short unique regions of the genome among a series of low passage HCMV isolates. Mapping was done by hybridizing HCMV restriction fragments with a series of subgenomic cloned fragments of HCMV strain AD169. In this way we have documented where in the HCMV genome variation has occurred and compared patterns of variation among strains in specific regions. We have identified restriction sites conserved among all strains studied, and sites and genomic regions which vary among few or many strains. We have studied the region specifying immediate early functions in greater detail by also comparing XbaI and BamHI sites. In addition, we have tested all strains for their ability to hybridize with the transforming region identified in HCMV strain AD169.

In addition to central nervous system (CNS) opportunistic infections and neoplasms, patients with AIDS develop unexplained dementia and encephalopathy and degeneration of the white matter. We studied autopsied brains from patients who expired from AIDS to determine the relationship of HCMV and human immunodeficiency virus (HIV) infection to white matter lesions and to clinical findings. In patients with dementia/encephalopathy and abnormalities of the white matter, there was evidence of HIV infection. In contrast the remaining patients who had no evidence of white matter degeneration revealed no hybridization to the HIV probe. The cells infected with HIV included endothelial cells, perivascular macrophages/microcytes and multinucleated giant cells and were found in or adjacent to white matter degeneration. These results demonstrate a correlation between HIV-infected cells and AIDS leukoencephalopathy and provide further evidence for HIV-related dementia/encephalopathy.

S.8.7 PAPILOMAVIRUSES AND HUMAN CANCER

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Papillomaviruses are associated with a number of different epithelial human tumors and there is good evidence that they play a causative role not only for the induction of benign warts but are also responsible for malignant cell transformation leading to invasive cancer. On the other hand it has to be assumed that papillomaviruses are per se not sufficient for the induction of the malignant phenotype and that additional factors such as chemical carcinogens, hormones or other viruses are required which may influence either the expression of viral genes, the genetic stability of the host cell or the immune response of the organism.

S.8.8 RELATIONSHIP OF HIV TO HEPATITIS VIRUSES.

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HBV infection is a major health problem in Africa since at least 10% of the African population are chronic carriers of the virus. HBs Ag chronic carrier state is associated with the development of cirrhosis and hepatocellular carcinoma.

Although HIVs probably emerged recently in Africa, the prevalence of HIVs infection reaches 5% of the adult population in some African urban areas. HIV causing immunodeficiency may interfere with the spontaneous course of co-occurring infectious diseases. For instance, the incidence of EBV-associated lymphomas and neurosyphilis is higher in HIV seropositive individuals. To this respect, we analyzed the prevalence of replicative markers of hepatitis viruses (HBe Ag, HD Ag) in HIV seropositive or seronegative HBs Ag carriers from different areas : Central-Africa, West-Africa and France. The results will be discussed.

S.9.1 THE GLOBAL AIDS PREVENTION AND CONTROL PROGRAMME
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S.9.2 CONGENITAL TRANSMISSION OF HIV IN NAIROBI, KENYA
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In areas of the world where heterosexual transmission is the predominant mode of spread of HIV and where sexually active women of child-bearing age are at risk for infection, transmission of HIV from mother to child is emerging as a major public health problem. To determine the risk of congenital transmission of HIV, we screened the sera of 2910 women in labour at the Pumwani Maternity Hospital, Nairobi, Kenya for HIV Ab. 77 (2.6%) women were seropositive for HIV Ab by ELISA and WB assays. 145 concurrently enrolled seronegative mothers and their newborns served as a control group. Maternal age, parity, and history of prior miscarriages, stillbirths, and infant deaths were similar in cases and controls. Infants of HIV+ and HIV- mothers were similar in birth weight and Apgar scores, but infants of HIV+ mothers had a higher prevalence of palpable lymph nodes at birth (37/66 vs. 35/125, $p = .0001$). Placentas of HIV+ and HIV- mothers did not differ with respect to placental weight (406 vs. 408) or histologic evidence of chorioamnionitis (12/33 vs. 15/36). However, chronic inflammation of the maternal surface of the placenta was more frequent in HIV+ than HIV- mothers (25/33 vs. 18/37, $p = .02$).

Sera from cord blood of infants of HIV+ mothers were analyzed for HIV IgG and IgM Ab. All 53 sera tested were positive for HIV IgG Ab by ELISA and WB. In 8 of 16 infants followed for at least 3 months HIV IgG Ab by ELISA disappeared, and in the remaining 8 infants antibody titers were falling, consistent with clearance of passively acquired maternal Ab. 27 (51%) of 53 cord sera were positive for IgM Ab by WB. There was no association between cord IgM Ab and stage of maternal HIV infection, birthweight, or presence of palpable lymph nodes in the newborn. In 1 of 6 infants, HIV was cultured from cord blood lymphocytes. The true frequency of congenital transmission of HIV in this cohort will be determined by continued clinical follow-up, serial antibody determinations, and HIV cultures.

S.9.3

RISK FACTORS FOR HIV INFECTION IN A COHORT OF EAST AFRICAN PROSTITUTES.

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Prostitutes have proven to be a major group at risk of HIV infection and they, and their clients, are probably important disseminators of HIV. The predominance of heterosexual transmission of HIV in Africa has put prostitutes in many African countries at extremely high risk of sexual acquisition of HIV. In 1985, we established a cohort of 429 prostitutes residing in one small lower socioeconomic area of Nairobi for study of the epidemiology of sexually transmitted diseases. A high proportion of these women were infected with HIV initially. Subsequently, we have followed all available initially HIV seronegative women to determine the incidence and risk factors for HIV infection. At enrollment, 61% of women were HIV infected (HIV⁺). HIV⁺ was inversely associated with duration of prostitution - mean duration of prostitution 34.8±39.9 among HIV⁺ women and 48.9±58.4 among HIV⁻ women (p<.007). Current use of oral contraception (OC) was independently associated with HIV⁺. Of women using OC >6 months, 76% were HIV⁺ versus 57% of women using OC for <6 months or not reporting OC use (OR=2.48, CI95%=1.34-4.65, p<.003). One hundred and fifteen women were followed for a mean of 17.1±5.3 months. Seroconversion occurred in 64%. Seroconversion independently associated with intervening use of OC (RR=2.22, p<.02), genital ulcers (RR=1.76, p<.01) and *Chlamydia trachomatis* infection (RR=2.37, p<.05). Genital ulcers, *C.trachomatis* infection and oral contraceptive use increase the likelihood of HIV infection in this group of women. Partial control of HIV infection could potentially be achieved through modification of such facilitating factors. All women who are at risk of HIV infection by virtue of their sexual activity should insist their clients use condoms regardless of their choice of contraception.

S.9.4

EFFECT OF AN AIDS EDUCATION PROGRAM ON INCREASING CONDOM USE IN A COHORT OF NAIROBI PROSTITUTES.

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In order to control sexual transmission of HIV, modification of sexual behaviour through education must be achieved. We have been studying cohort of Nairobi prostitutes for 24 months who are at high risk of HIV infection (over 80% positive) and pose a substantial risk to their clients. Beginning in November, 1985 we provided education on AIDS to this cohort of 586 women. Several different methods of education - public meetings, individual counselling on the basis of HIV results and general health education - were employed. In June 1986 distribution of condoms through the clinic began. In October 1986 we began surveying the frequency of condom use in the cohort. 106 women who were newly recruited served as controls. Some condom use was reported by 8% of women prior to the education program vs. 90% of the most intensively educated group (Grp I) 35% of the less intensively educated group (Grp II) and 73% of the control group (Grp III). In Grp I and II no condom use was reported by 5/61 women who received counselling vs 10/33 women who did not receive counselling (p<.05). HIV antibody status did not influence frequency of condom use. Condom use was more frequently initiated in the control group. We have witnessed a remarkable increase in condom use as a result of the program. Although more intensive education resulted in incremental increases in condom use, minimal education with provision of condoms was the most important step.

S.9.5

WHICH LESSON CAN WE LEARN FROM AIDS IN AFRICA.

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Despite the essential similarity in modes of acquisition of HIV infection throughout the world, important regional variations exist. AIDS in Africa is characterized by virological, epidemiological and clinical patterns that are quite different from those observed in Western countries.

For adults, as far as the epidemiology is concerned, AIDS in Africa is mostly characterized by a predominant heterosexual transmission. As a consequence, in areas where women in the childbearing age have high seroprevalence rates to HIV, we could expect pediatric AIDS and AIDS-Related Complex to be in the future a tremendous public health problem. In people practising sexual promiscuity, such as female prostitutes and men with sexually transmitted diseases, there is a rapid dissemination of HIV infection suggesting that both male to female as well as female to male transmission are efficient. In addition, studies from African cohorts suggest that genital ulcers (herpes, chancroid, syphilis) could be an important co-factor in heterosexual spreading of HIV. In this view, adequate measures aimed at avoiding any further extension of the epidemic among heterosexuals should be focused, in Africa as well as in Western countries, on prevention, detection and treatment of STD's in general.

In Africa, HIV infection is often associated with common endemic diseases such as tuberculosis, salmonellosis and the association between malaria and HIV has been questioned. Besides well known clinical presentation of HIV infections, physicians would also consider these clinical manifestations as indicative of a possible HIV infection, particularly into people who do not belong to apparent high risk behaviour. More research should be devoted in Western countries to the different spectrum of latent infections and one can expect to find in the future descriptions with other pathogens that will broaden the spectrum of diseases associated with HIV infection.

S.9.6

SOCIAL AND ECONOMIC DETERMINANTS OF THE AIDS EPIDEMIC IN CENTRAL AFRICA.

B. Standaert*, P. Rocheleff**, * Projet SIDA au Burundi-Belgium Cooperation, * Clinique Prince Rwagasore, Bujumbura, Burundi-Belgium Cooperation.

In the near future, main problems of the AIDS epidemic in Central African countries will be not only medical, but specially, social and economic ones. In the medical context, we have actually nothing to offer: no curative treatment for AIDS patients, no protective vaccine for specific risk groups. Today, AIDS only creates new medical problems, overwhelmed by their psychosocial aspect or impact. Attempts to limit the AIDS epidemic in developing countries are essentially directed on preventive measures for behaviour changes. Meanwhile, presence of a political will by creating a scientific AIDS committee and of an economical will by allocating exactly the financial support to real AIDS priorities, are necessary to conduct the policy that will develop a will of behaviour changes in the population. Those 4 points are the key elements of the social issues created by the AIDS epidemic in Central Africa. Limited financial resources necessitate to budget on the best way the money that is available to the different priorities of AIDS. Those priorities or attributes are actually: palliative treatment of the AIDS patients; laboratory facilities for blood transfusion testing; sterilization facilities of needles, injections and scarification material; research priorities; information and sensibilisation programs and availability of contraceptive measures - last two attributes must be subdivided in specific age-groups, social activity, educational improvement and regional difference in HIV-infection prevalence. Multi-attribute problem analysis (MAP) helps to find the optimal combination of the different attributes by refraining and combining them into a single measure. Economic modeling (EM) gives attention to as well direct as indirect interaction of the different attributes. It projects a more global view of the AIDS economic problem. In function of limiting the AIDS epidemic, both analysis -MAP and EM on short term perspectives (5 years) for a region with a high HIV infection prevalence, show however the importance to perform first research priorities on the quantitative impact of every known and possible mode of transmission of HIV, on the determination of co-factors in developing AIDS and dying of AIDS, and on the importance of the development of new epidemics from endemic diseases caused by AIDS.

S.10.1 COOPERATIVE ACTIVITIES ON AIDS IN AFRICA
G. Beausoleil, Regional Office for Africa, World Health Organization, Brazzaville,
Congo.

ABSTRACT NOT AVAILABLE AT TIME OF PRINTING

S.10.2 THE ROLE OF NIH IN THE STUDY OF AIDS IN THE UNITED STATES AND AFRICA
R.J. Biggar, International AIDS Coordinator, NCI, Bethesda, Maryland

AIDS has emerged as the most important epidemic facing the United States during the 1980s. By 1991, a quarter of a million Americans will have been diagnosed as AIDS cases, and the direct and indirect monetary costs can be projected to exceed 50 billion dollars. The principal government agencies investigating AIDS are the National Institutes of Health (NIH) and the Centers for Disease Control (CDC). NIH has played a prominent role in exploring the epidemiology and natural history of this condition both through funding extra-mural research (grants and contracts) and through direct investigations. In 1984, NIH and French scientists proved that AIDS was caused by the human immunodeficiency virus (HIV). Since then, NIH researchers have introduced the first drug shown to be effective in AIDS therapy, zidovudine. It is already in widespread use and other drugs are being developed. So far, vaccine development has been unsuccessful. In Africa, between one and ten million persons may be HIV-infected. NIH has contributed to research in the epidemiology and natural history of HIV and other retroviruses in several countries. Further bio-medical research needs to be conducted in Africa on transmission risk factors, maternal-infant studies, and other retroviruses. Tests for HIV-antibody presence need to be made rapid, simple and economical if they are to be suitable for widespread use in diagnosis and blood screening. Most importantly, a comprehensive vaccine trial will need to be conducted in Africa when a safe and potentially effective candidate vaccine becomes available. In preparation for this, cohorts in which risk factors and HIV-incidence are established must be developed. The results of all studies must be shared if they are to contribute to WHO-sponsored efforts to control AIDS in Africa.

S.10.3 COOPERATIVE ACTIVITIES OF CDC ON AIDS

W. Heyward, Center for Infectious Diseases, Centers for Disease Control, Atlanta, GA, USA.

S.10.4 AIDS SURVEILLANCE IN SIX COUNTRIES OF CENTRAL AFRICA: COORDINATION OF A SUBREGIONAL PROGRAM.

M. Merlin*, R. Josse*, E. Delaporte**, M.C. Georges***, J.P. Durand****, C. Hengy*, D. Kouka-Bemba*, L. Kaptué', J. Limbassa", P.M.M. Yankalbé"', J. Abandja""', A. Dupont**. *OCEAC, Yaoundé-Cameroon; **CIRMF, Gabon; ***Inst. Pasteur Bangui, Central-African Rep.; ****Centre Pasteur, Yaoundé, Cameroon; "Cameroon"; Central-African Rep.; "'Chad; and Gabon Ministries of Public Health

Since 1985 OCEAC has been managing an epidemiological surveillance program on AIDS in the six Member-States of the Organization (Cameroon, Central-African Republic, Chad, Congo, Equatorial Guinea and Gabon) with intent to evaluate the magnitude of the problem and to coordinate preventive actions.

This program includes longitudinal and transversal epidemiological surveys:

- *hospital based surveillance (clinical cases reported by the hospital network of each Country; complete clinical and epidemiological observations reported by a special sentinel-hospital network), to evaluate morbidity and incidence rates;

- *sero-epidemiological surveys in high-risk groups and indicator-groups, to identify risk factors;

- *sero epidemiological sample surveys in randomly selected groups of the general symptom-free population, in various age-groups compared at regular intervals to evaluate the prevalence and incidence rates of infection;

- *surveillance of cohorts of sero-positive peoples.

Circulation of HIV 1 and 2 is confirmed in the Sub-Region but seems to be very dissimilar from one place to another. Sero-prevalence rates are significantly higher in urban areas (from 0.3% to 7.8%) than in rural areas (0% to 0.8%). Heterosexual spread of HIV is the major way of infection. Each sex is equally concerned. Sero-prevalence rates under the age of 15 are significantly lower than those observed in adults. Infection incidence rates are similar to those reported by other studies. On the contrary the proportion between AIDS and sero-positive cases seems to be lower than those reported from other areas.

S.10.5

THE EEC/ACP AIDS CONTROL PROGRAMME

M. Baraldini, L. Fransen, AIDS TASK FORCE, Commission of the European Communities, Directorate - General for Development (DG VIII), Brussels, Belgium.

I. Programme objectives

AIDS is now regarded as a major public health priority by developing countries since failure to control HIV-infection will have a significant negative impact on most other health problems, health services and related programmes (notably mother and child health, sexually-transmitted diseases, tuberculosis and diarrhoeal disease control) and potentially on economic development.

The Commission of the European Community (Directorate General for Development, D.G. VIII) has launched a programme to support and strengthen national AIDS control programmes in the African, Caribbean and Pacific (ACP) countries party to the 2nd Lomé Convention. It is an EEC/ACP contribution to the international effort to combat AIDS led and coordinated by WHO's Special Programme on AIDS (SPA). The main aim of control activities is primary prevention, i.e. to prevent to the maximum extent possible the occurrence of new cases, thus limiting the number of carriers who can in turn spread AIDS infection both within their own population groups and further afield.

AIDS poses a challenge which needs to be met on a long-term developmental basis. Therefore, it is essential that existing health services and structures be strengthened and that AIDS control activities be integrated into primary health care systems thus ensuring the long term impact and viability of these activities.

II. Programme resources and implementation

The programme disposes of a total of 35 MECU for three years until mid-1990 for the benefit of all ACP States which wish to participate.

This will be used to provide technical, scientific and financial support to national AIDS programmes. It will include the provision of equipment, consumables, technical assistance and training activities

, and where necessary, some minor works to implement the following types of actions:

- a) the reduction of transmission through contaminated blood;
- b) the reduction of sexual transmission;
- c) reduction and control of perinatal transmission;
- d) reduction of transmission by contaminated needles, syringes and other skin-piercing instruments;
- e) the setting-up of surveillance systems to assess programme impact and evolution of disease;
- f) provision of material, technical and financial support to national AIDS committees;
- g) evaluation: participation in the overall evaluation of national AIDS programmes, under WHO/SPA leadership.

Primary responsibility for programme implementation will rest with the ACP authorities, and will in most cases be ensured by the primary health care system and staff, with external support as needed.

The programme includes a research component. It will fund public health orientated research of an operational nature since such research is critical to effective monitoring and implementation of control efforts and is often included in national AIDS control programmes. Implementation will be the primary responsibility of local bodies in ACP countries such as universities, institutes and hospitals. The programme will seek, where possible, to strengthen local research capacity by providing training of both scientific and technical staff as well as equipment as needed. Interinstitutional collaboration both between ACP countries and ACP and EEC institutes will be encouraged whenever possible. Research proposals will be subject to standard vetting procedures.

III. Programme administration

The Directorate-General for Development, DG VIII, has set up a special Task Force to manage the programme. The Task Force is assisted by a full-time specialist in sexually-transmitted diseases and AIDS. The Task Force is responsible, together with the Desk Officer for each ACP country, for planning, appraising, and ensuring decisions on actions, and for helping to implement them. Commission Delegations in ACP countries also play an important rôle in this process.

S.10.6 AIDS PROBLEMS IN AFRICA: A SUGGESTED STRATEGY FOR INTERNATIONAL SUPPORT, R. Guerra, G. Bertolaso, A. Aloï, V. Lucchetti, M. di Gennaro, Health Section, Direzione Generale Cooperazione Sviluppo, Ministry of Foreign Affairs, Rome, Italy.

Italy has been involved in several health support initiatives in Africa for the last five years, through bilaterally (either government and non-governmental channels) and multilaterally funded programmes.

A review of the internal setup and mobilization of national technical resources is presented.

Strategies to identify, quantify and tackle the AIDS pandemic in several African Countries are detailed. A number of options are explored and the final selected interventions illustrated.

A comprehensive methodology for coordinating activities at international, regional, national and subnational level is suggested as a model to be presented to either Donor Countries, International Agencies or potential recipient Countries.

Need for field data management is stressed from the technical, political and ethical viewpoints. A major focus on integration of AIDS control activities into the broad Primary Health Care context is illustrated within the frame of the general policy of strengthening local health services and infrastructures. Critical points such as community mobilization, distribution systems, delegation of authority to Districts and solid operational research activities are further stressed.

Thursday (Th), October 8

POSTER SESSION

10:00 AM - 5:00 PM

TH-1**INITIAL OBSERVATIONS ON THE NATURAL HISTORY OF HIV-2 INFECTION**

R. Marlink*, D. Ricard**, J.-L. Romet-Lemonne*, I. N'Doye***, T. Siby**, S. M'Boup**, P. Kanki*, M. Essex*. *Harvard School of Public Health, Boston, MA, USA, **University of Dakar, Dakar, SENEGAL ***National Center for Sexually Transmitted Diseases, Dakar, SENEGAL

In February, 1985, 289 prostitutes in Dakar, Senegal provided serum samples for serologic analysis. All of these prostitutes were attending an STD clinic sponsored by the Ministry of Health in Senegal, requiring monthly visits for clinical evaluations of prostitutes. Eighteen of these prostitutes proved to be seropositive for HIV-2/HTLV-4 and have been seen by a physician on our team every 3-6 months since the initial serologic survey with detailed historical and clinical evaluations, including ultrasonographic examinations. Among the seropositive individuals there have been no generalized lymphadenopathy and no signs or symptoms usually associated with immunodeficiency in African populations over the past 2.5 years of follow-up, composing 42 person years of observation (PYO). Serocconversion rate for the seronegative population over this time period has been 7.6%/100 PYO.

The lack of clinical abnormalities in the HIV-2 seropositive individuals is markedly different from other longitudinal studies in Africa following HIV-1 seropositive outpatients. HIV-1 seropositive prostitutes in Nairobi have shown a rate of development of generalized lymphadenopathy to be 47 cases/100 PYO (Plummer, 1987) and HIV-1 seropositive workers in Kinshasa have shown an "ARC rate" of 20.4 cases/100 PYO (Ngaly, 1987).

Extrapolation between these HIV-1 seropositive and HIV-2 seropositive populations in Africa appear to demonstrate a marked reduction in attack rate to generalized lymphadenopathy or ARC in HIV-2 infection, if compared to HIV-1 infection. Comparisons concerning the rate of developing to AIDS or other clinical manifestations are premature in this cohort, but the lack of a widespread AIDS epidemic in areas in West Africa with a known high seropositivity to HIV-2 type viruses is unlike the pathobiology being seen with HIV-1 in Central Africa, Europe and the United States.

TH-2**REACTIVITY TO RECOMBINANT CORE AND ENVELOPE PROTEINS OF HIV-1 OF AFRICAN SERA WITH HIV-1 AND/OR HIV-2 SPECIFICITY.**

G.Léonard¹, M.Mounier⁵, M.Verdier¹, A.Sangaré², G.M.Gersty-Damet², S.M'Boup³, D.Ricard³, E.Petat³, P.Kocheleff³, F.Denis³, F.Barin¹. 1 CHU Dupuytren Limoges, France, 2 Institut Pasteur Abidjan, Côte d'Ivoire, 3 Université de Dakar, Sénégal, 4 Université de Bujumbura, Burundi, 5 CHU Bretonneau Tours, France.

The new human T-lymphotropic retrovirus HIV-2 (HTLV-IV, LAV 2) that was recently isolated from West African individuals, showed an extensive homology with the gag encoded antigens of HIV-1, and a weak homology with the envelope proteins of HIV-1, but an important homology with the env glycoproteins of the simian virus SIV (formerly STLV-III)

In this study, we used african sera of known specificity (serotyping performed by Western blotting using HTLV-III_B and HTLV-IV P289 as antigens), and studied their reactivity in an ELISA using recombinant polypeptides from core and env regions of HIV-1 (Envacore Abbott, North Chicago). 237 sera were positive for antibody (Ab) to HIV-1, 122 sera were positive for antibody to HIV-2 and 47 sera were positive for glycoproteins of both viruses. The results were expressed as a percentage of competition with a cut-off value equal to 50%. The results are summarized in the table. Implications for the cross-reactivities between HIV-1 and HIV-2 will be discussed.

Sera positive for antibody to	NB	CORE + ENV +	CORE + ENV -	CORE - ENV +	CORE - ENV -
HIV 1	237	223	4	9	1
HIV 2	122	68	36	9	5
HIV 1,2	47	47	0	0	0

TH-3

SEROLOGIC PROFILES OF HIV-2 POSITIVE SERA AND THEIR CROSS-REACTIVITY TO HIV-1 ANTIGENS

P.J. Kanki*, F. Barin**, S. M'Boup***, M. Essex*. *Harvard School of Public Health, Boston, MA, USA, **CHRU Breconneau and UER Pharmaceutical Sciences, Tours, FRANCE, ***Dakar University, Dakar, SENEGAL.

500 serum samples from HIV-2/HTLV-4 antibody positive individuals from West Africa were evaluated for their serologic profiles to viral antigens by immunoblot and RIP-SDS/PAGE analysis. These same serum samples were also analyzed for reactivity to other strains of HIV-2 including LAV-2, SBL-6669, HTLV-4-MS and HTLV-4-ST viruses. Finally all serum samples were analyzed for cross-reactive antibodies to HIV-1 by these same techniques.

The majority of serum samples irrespective of geographic origin demonstrated a typical profile to HIV-2/HTLV-4 antigens including a high titered response to the gp120/160, gp32 (transmembrane protein), p64, p53, p55, and p24. Less frequently antibody responses were noted to the presumed 3'orf protein, p31, and the myristylated NH₂-terminal gag protein, p15. HIV-2 antibody positive samples showed similar or decreased reactivity to other strains of HIV-2 including LAV-2, SBL-6669, HTLV-4-MS and HTLV-4-ST viral antigens.

An atypical response to the HIV-2 antigens was demonstrated in individuals from two countries where significant levels of HIV-2 and HIV-1 have been noted in high risk populations. This profile demonstrated strong reactivity to the major env-related and gag-related antigens of both viruses, HIV-1 and HIV-2, suggestive of dual exposure. A second atypical response was noted in a small proportion of individuals (10%) where reactivity to the env-related proteins, gp120/160 and gp32, were the only antigens recognized by the serum samples. However, the cross-reactivity to the gag antigens of HIV-1 were more pronounced.

The cross-reactivity of HIV-2/HTLV-4 has been described and was the approach that led to the discovery of STLV-3 and the HIV-2 groups of viruses. The gag and pol encoded antigens are the most highly related between HIV-1 and HIV-2 and bidirectional cross-reactivity is readily demonstrated by immunoblot or RIP-SDS/PAGE. The cross-reactivity between the env antigens of these viruses is less pronounced. By RIP-SDS/PAGE, HIV-2 positive sera will infrequently recognized the gp160 precursor of HIV-1 and vice versa. Cross-reactivity between transmembrane envelope antigens is even less frequent and unidirectional; where occasional HIV-1 positive sera will faintly recognize the gp32 of HIV-2/HTLV-4. The high degree of cross-reactivity between these related viruses indicates that type specificity must be determined by immunoblot and/or RIP-SDS/PAGE analysis with both sets of viral antigens.

TH-4

HIV SEROPREVALENCE IN NOUAKCHOTT (ISLAMIC REPUBLIC OF MAURITANIA).

S. M'Boup*, D. Ricard*, P. Kanki**, Y. Kane***, L.O. Salem***, M. M'Baye***, A. Gaye*, J-L. Sankale* and L. Sangare*. Hopital Le Dantec, Dakar-Fann, SENEGAL. **Harvard School of Public Health, Boston, U.S.A. ***Sabah Hospital, Nouakchott, MAURITANIA.

At Sabah hospital in Nouakchott, Mauritania, 356 serum samples were tested for HIV by ELISA (Abbott) and confirmed by Western Blot using HIV-1 and HIV-2 HTLV-4 as viral antigens. Sera were drawn from tuberculosis and STD patients. Hospital workers sera were used as controls. All serum samples have also been tested for syphilis by microagglutination and HBsAg by ELISA to check for any correlation with retroviral infection.

The seroprevalence of retroviral infections in this area is quite low (0.6%), in the same range of what has been reported in Europe among the general population. Twenty one percent of sera was HBs Ag positive which is comparable with the HBs seroprevalence in neighboring countries.

In conclusion, Mauritania is not yet an endemic zone for the AIDS virus infection, and it is in the national interest to undertake rapidly an efficient prevention program to avoid the spread of HIV.

TH-5 EPIDEMIOLOGY AND CLINICAL EVALUATION OF PROSTITUTES EXPOSED TO HIV-2/HTLV-4 IN SENEGAL.

R. Marlink*, D. Ricard**, J.-L. Romet-Lemonne*, P. Kanki*, M. Essex*, T. Siby**, S. M'Boup**, et al. *Harvard School of Public Health, Boston, MA, USA, **University of Dakar, Dakar, SENEGAL.

Several outpatient clinics which serve the health care needs of prostitutes in Senegal have been surveyed over the past year. Seropositivity to the HIV-2 type retroviruses in 1986 has been shown to vary with <1% seropositive in the northern part of the country, 7% seropositive in the capital city of Dakar and approximately 45% seropositive in the southern region of the country. A distinct lack of cutaneous anergy, of generalized lymphadenopathy and of systemic signs or symptoms indicative of clinically significant immune suppression has been noted as compared with seronegative prostitutes. This lack of clinical abnormalities is not seen in cross-sectional surveys in Central or East Africa involving outpatient prostitute populations seropositive for HIV-1. For the entire country, the average age of those prostitutes seropositive to HIV-2/HTLV-4 was a decade greater than those seronegative and also correlated to the estimated number of lifetime sexual contacts ($p < .01$).

In a subset of prostitutes available for further hematologic analysis in Dakar, we found significant elevations of polyclonal IgG levels ($p < .01$) and of absolute T8 lymphocyte counts ($p = .03$) in the seropositive prostitutes when compared to seronegative prostitutes or to surgical controls. Notably, total T cell counts and absolute T4 cell counts showed an inverse correlation to age, regardless of serologic status. Multivariate analysis of absolute T4 cell counts in relation to age showed a small trend towards lower T4 counts in the seropositive prostitutes ($p = .15$). Other significant findings were elevated levels of $\beta 2$ -microglobulin and the absence of anti-lymphocyte antibodies among the seropositive prostitute group.

We conclude 1) that HIV-2/HTLV-4 is a sexually transmitted virus, 2) that certain hematologic parameters are altered and are perhaps unique for this type of retrovirus and 3) that the absence of abnormal clinical findings in this cohort is distinct from similar cohorts exposed to HIV-1 and may represent a reduced pathogenicity of the HIV-2 serotypes when compared to HIV-1.

TH-6 HIV-1 AND HIV-2 SEROPREVALENCE IN A HOSPITAL WORKER POPULATION, P

DAKAR, SENEGAL.

I. Sow*, S. Lu**, E. Coll*, A. Sow*, P. Kanki**, M. Prince-David*, S. M'Boup* and J.-L. Romet-Lemonne**. Hopital Le Dantec and hospital Fann, Dakar-Fann, SENEGAL. **Harvard School of Public Health, Boston, U.S.A.

Sera from 779 individuals were collected from April to June 1986 from hospital workers in Dakar Senegal. Sera were tested for antibody to HIV by commercially available ELISA (Du Pont HTLV-III ELISA). All positive and borderline sera were subsequently tested by immunoblot using HIV-1/HTLV-3B and HIV-2/HTLV-4 as viral antigens.

The results indicate that both types of human retroviruses HIV-1 and HIV-2 are also present in this population with an approximately identical seroprevalence (<0.5%). These results differ from what has been described for Dakar prostitutes (N=318, 7.5% HIV-2 positive and 0.3% HIV-1) and for 151 non AIDS hospitalized patients from the same hospital (0.6% HIV-2 positive and 0% HIV-1) during 1986. The 5 AIDS cases reported in December 1986 (Pr.A. Sow) were all 5 HIV-1 antibodies positive and coming from HIV-1 endemic area.

Results will be displayed regarding age distribution, country of origin and the time spent in the Dakar hospital. A second bleed and test are in process and seroconversion data will be discussed. This study in comparison with similar population studies performed in central Africa should give us information on the spread and pathogenicity of these two human retroviruses.

TH-7 PREVALENCE OF HIV-1 AND HIV-2_{HTLV-4} IN THE SOUTH OF SENEGAL, IN CASAMANCE.

D. Ricard*, S. M'Boup*, A.N'Doye*, P. Kanki**, M. Mounier*** and C. Boye*. Hopital Le Dantec, Dakar-Fann, SENEGAL, **Harvard School of Public Health, Boston, U.S.A. ***Hopital Dupuytren, Limoges, FRANCE.

Sera from 505 individuals were collected in 1986 in Casamance, a southern region of Senegal sharing a border with Guinea-Bissao. All sera were tested by western blot using HIV-1 and HIV-2_{HTLV-4} viruses as antigenic probes. The results shows that only HIV-2_{HTLV-4} is present in this region of Senegal and the prevalence varies as follows:

48% (33/68) in the prostitute population, 3%(9/280) in the control population, and 0%(0/157) in patients hospitalized for infectious diseases, cancer, and tuberculosis. The very high prevalence of HIV-2_{HTLV-4} in the high risk population, and, the presence of the same type of virus in the general population contrast with its absence in the hospitalized patients. This suggests a difference in pathogenicity between HIV-1 and HIV-2 types of viruses. In comparison with what has been reported in Central Africa regarding the spread of HIV-1, we can conclude that it is very likely that HIV-2_{HTLV-4} has been present in this population for more than 5 years and that it is less pathogenic than HIV-1, which is compatible with our 2.5 years of clinical and biological follow up of the HIV-2_{HTLV-4} infected people in Dakar.

TH-8 PREVALENCE OF HIV-1 AND RELATED HUMAN RETROVIRUSES IN GUINEA-BISSAU, WEST AFRICA.

D. Ricard*, S. M'Boup*, P. Kanki**, A.C. Venancio***, D.J. Mendes*** and C. Boye* Hopital Le Dantec, Dakar-Fann, SENEGAL, **Harvard School of Public Health, Boston, U.S.A. ***Bissau Hospital, Bissau, GUINEA-BISSAU.

In November 1986, 463 sera were collected in Bissau the capital of Guinea-Bissau. All sera were tested by western blot on HIV-1 and HIV-2_{HTLV-4} viral antigens. Only HIV-2_{HTLV-4} antibodies have been detected in this screening. The prevalence of the virus varies as follows: 64%(25/39) in the risk group, 9%(14/151) in the control group, and 13.5%(37/273) in hospitalized patients. The seroprevalence for HIV-2_{HTLV-4} is significantly higher in the risk population than in the control group ($\chi^2=57$, $p<0.01$) but there is no difference between the control and the disease groups ($\chi^2=1.64$). An atypical antibody profile to HIV-2_{HTLV-4} antigens was observed in 9 serum samples, 5 from to the disease group and 4 from prostitutes. These serum samples contained only antibodies to gp 160/120 and gp 32 but not to gag and pol antigens of HIV-2_{HTLV-4}. This atypical serological profile could be related to the existence of another human retrovirus of the HIV-2 type. Isolation of a virus from these individuals is in process.

TH-9**PREVALENCE OF ANTIBODIES TO HIV 1 AND HIV 2 AMONG A HOSPITAL WORKER POPULATION IN GUINEA-BISSAU (WEST AFRICA)**

A. Santos Pinto¹, Wanda F. Canas Ferreira¹, J. Champalimaud¹, Kamal Mansinho¹, C. Costa², P. Mendes², V. Furtado², S. Chamaret³, Luc Montagnier³, J. Marques¹, L. Baptista¹, J. Brandao¹.

- 1 - Institute of Hygiene and Tropical Medicine, Lisbon, Portugal
- 2 - Ministry of Health, Guinea-Bissau
- 3 - Institute Pasteur, Paris

The existence of AIDS in African patients was confirmed in Europe in 1981 and in Africa in 1983. However, since 1979 Egas Moniz Hospital in Lisbon has been receiving patients from Guinea-Bissau, with a clinical profile of unexplained chronic diarrhoea, fever, accentuated loss of weight and sometimes neurologic involvement for which no infectious agents were found of the type usually responsible for such situations, nor causes of any other nature. These patients were found infected with HIV 2 (Clavel et al. Science July 1986). For this reason a wide surveillance study was carried out in Guinea-Bissau in 1986 and 1987. We collected sera from 275 people working at Ministry of Health, (95 male and 181 female). HIV 1 and HIV 2 seroincidence was determined. Sera were tested for antibodies to HIV 1 and HIV 2 by ELISA and by Western Blot and Ripa analysis. 36 (19,88 %) out of 181 women were HIV 2 antibody positive and 3 (1,65 %) were HIV 1 antibody positive. 11 (11,57 %) out of 95 men were HIV 2 antibody positive and none was HIV 1 antibody positive.

Out of the 6 professional groups studied there was significant association between seropositivity and work category in only three groups: obstetric staff with blood contact 20/48, 41,66 %; pediatric staff 10/36, 27,78 %; surgical staff 8/57, 14,04 %.

TH-10**PREVALENCE OF ANTIBODIES TO HIV 1 AND HIV 2 AMONG BLOOD DONORS IN GUINEA-BISSAU (WEST AFRICA)**

Wanda F. Canas Ferreira¹, Kamal Mansinho¹, A. Santos Pinto¹, J. Champalimaud¹, J.L. Baptista¹, S. Chamaret², Luc Montagnier², C. Costa², P. Mendes², V. Furtado², J. Brandao, B. Marques¹.

- 1 - Institute of Hygiene and Tropical Medicine, Lisbon, Portugal
- 2 - Institute Pasteur, Paris
- 3 - Ministry of Health, Guinea-Bissau

Screening for anti HIV 1 Ab and anti HIV 2 Ab in blood donation is not yet compulsory in many African countries, but for the prevention of AIDS transmission attention must be paid to this important problem.

We investigated anti HIV 1 Ab and anti HIV 2 ab by ELISA technique (ELAVIA Pasteur) in a group of 54 health paid donors, in Guinea-Bissau, 3 of whom were women. Positive specimens were confirmed by Western Blot assay (LAVELLOT, Pasteur) and RIPA. 2 (3,7 %) of these 54 donors, were anti-HIV 1 positive and 14 (25,9 %) were anti HIV 2 positive. Among these positive results one was female. 6 (11,1 %) out of the 54 were doubtful because they had antibodies to internal viral proteins but not to envelope proteins. 2 (3,7 %) individuals were simultaneously HIV 1 and HIV 2 antibody positive. All the seronegative individuals were in excellent health and had no signs suggestive of HIV-associated illness when they were examined. However, in 6 (48,8 %) out of the 14 seropositive individuals and in 16,7 % of the 6 doubtful ones we found polyacoenopathies (0,05). All the males were heterosexuals and not drug addicts. 2 out of these 54 had previously received transfusions and one of these 2 showed HIV 2 antibodies. The only known risk factor found among the 54 was that of contact with female prostitutes. An intensive educational effort is indicated to further reduce the risk of transfusion-associated AIDS in Guinea-Bissau.

TH-11

THE EPIDEMIOLOGY OF AIDS IN WEST AFRICA

Vanda F. Canas Ferreira¹, Kamal Mansinho¹, A. Santos Pinto¹, J. Champalimaud¹, C. Costa², J.L. Baptista Marques¹, J.L. Baptista¹, J. Brandao¹, Venancio Furtado¹, P. Mendes²

- 1 - Institute of Hygiene and Tropical Medicine, Lisbon, Portugal
- 2 - Ministry of Health, Guinea-Bissau

Although a number of studies have already been made about the epidemiology of AIDS in Africa the subject is not yet completely clarified. What is happening in Central Africa, where HIV 1 is circulating with great aggressivity among the population of various countries, in which many people have AIDS, may not be exactly the same as what is happening in West Africa. There, other viruses perhaps with a different pathogenicity have been isolated. HIV 2 is one of these new viruses. Isolated for the first time in 1985, by the Pasteur Institute Paris, in blood from a patient from Guinea-Bissau, in hospital in Lisbon, this virus has proved to be pathogenic also, at least in some groups of patients. However, little is known yet about its epidemiology.

In 1986 and 1987 a team from the Institute of Hygiene and Tropical Medicine, Lisbon, carried out a big epidemiological survey throughout Guinea-Bissau, for the purpose of studying AIDS. Large groups of the population in general, specific groups and hospital patients were interviewed, examined and tested for HIV 1 and HIV 2 antibodies. Among the groups studied, was one from the Army. 236 men, 26-59 years old, were studied, by ELISA and Western Blot (Pasteur), during this survey. 22 (9,25 %) were positive for HIV 1 and 2 (0,84 %) positive for HIV 2. These, were simultaneously HIV 1 and HIV 2 antibody positive. Among the various risk factors investigated the only significant one was that of frequent STD found in 16 or 22 HIV 1 and HIV 2 seropositive individuals (72,7 %).

TH-12

EPIDEMIOLOGY OF HIV 1 AND HIV 2 IN GUINEA-BISSAU (WEST AFRICA)

Kamal Mansinho¹, V.F. Canas Ferreira¹, A. Santos Pinto¹, J. Champalimaud¹, C. Costa², P. Mendes², V. Furtado², J.L. Baptista¹, J. Baptista Marques¹, J. Brandao¹, S. Chamaret³, Luc Montagnier³.

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- 2 - Ministry of Health, Guinea-Bissau
- 3 - Institute Pasteur, Paris, France

Seroepidemiological analysis were carried out by us in Guinea-Bissau on heterosexuals individuals working in a veterinary centre in contact with several species of animals including monkey.

We investigated anti HIV 1 Ab and Anti HIV 2 Ab by ELISA (ELAVIA, Pasteur) technique. Positive specimens were confirmed by Western Blot assay (LAV ELDT, Pasteur). Of 49 individuals, 3 (6,12 %) were positive for anti HIV 2 antibodies. Two were male and one female. None was positive for anti HIV 1. Out of three positive 2 (66,6 %) belonged to the age group 26 to 35 and the third was 49. This group was considered healthy and without known risk factors, and although it was a small group it can, with others in the same conditions which we also studied, be considered representative of the population in general.

TH-13**RETROSPECTIVE SEROEPIDEMIOLOGY OF AIDS VIRUS INFECTION IN GUINEA-BISSAU (WEST AFRICA) POPULATIONS**

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Sera from 300 individuals, 2-60 years old, collected in different areas of Guinea-Bissau in 1980 were tested for HIV 1 and HIV 2 antibodies. Screening for HIV antibodies was performed by ELISA technique (Abbott and Pasteur), and immunofluorescence assay with confirmation of positive results by Western Blot. The prevalence of HIV 1 antibodies was 1% (3/300) and HIV 2 antibodies was 2% (6/300). 2 sera were simultaneously positive for anti HIV 1 and 2 antibodies. Our results indicate that AIDS virus HIV 1 and 2 were already circulating in West Africa in 1980.

TH-14**HIV-1 AND HIV-2 SEROPREVALENCE IN CONAKRY, GUINEA.**

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A seroepidemiological study were conducted in GUINEA to evaluate the seroprevalence of HIV and related human retroviruses. 456 sera were collected from hospitalized patients in different hospitals in Conakry, from outpatients visiting STD clinics, prostitutes, blood donors and hospital workers. All serum samples were screened by western blot and confirmed by radio immunoprecipitation using HIV-1_{HTLV-3B} and HIV-2_{HTLV-4} as antigenic probes. 1.3% of sera were found to be antibody positive to HIV-2_{HTLV-4} and 0.2% of sera were anti-HIV-1 antibody positive. One case of dual reactivity to HIV-1_{HTLV-3B} and HIV-2_{HTLV-4} envelope and gag antigens was detected.

These results confirm that Guinea like most of the West African countries is not yet highly infected by the AIDS virus HIV-1. The fact that the two HIV-1 antibody positive people are immigrants indicates that a new risk group should be considered: This might include travelers coming back from a long stay in country where HIV-1 is endemic.

Guinea has low seroprevalence of HIV-1 and HIV-2 and rapid development of prevention measures could be efficient to stop the progression of all HIV infections.

TH-15**SERO-EPIDEMIOLOGICAL STUDY OF HIV INFECTION IN GUINEA - CONAKRY**

K. Kourouma, F.B. Diallo, P. Diallo and the members of the Comité Sida - Ministry of Health - Conakry, Guinea

To evaluate the presence of HIV infection in Guinea, sera were collected in April 1986 from 431 subjects (191 males, 240 females) in Conakry the capital and in October 1986 from 914 subjects (518 males, 396 females) in two areas - Conakry (756 subjects) and Labé, a city of the north-east of the country (158 subjects). Sera were tested for antibodies to HIV-1, LAV-2 and HTLV-IV by Elisa, the positive sera were confirmed by Western Blot.

In Conakry, HIV-1 seropositivity was found in 6/1187 subjects: 5/251 were patients hospitalized for tuberculosis; 1/89 patients hospitalized in medicine ward. LAV-2 seropositivity was found in 2/756 subjects: 1/277 was hospital health care worker and 1/121 patients with tuberculosis.

HTLV-IV seropositivity was found in 5/431 subjects: 2/131 patients with tuberculosis (both HTLV-IV and HIV-1 antibodies were present in one of these cases); 3/165 females attending gynecology/obstétrical clinics.

No HIV-1 antibodies were found neither in 332 females attending gynecology/obstétrical clinics nor in 110 military recruits. None of 128 blood donors were found positive for HIV-1 antibodies.

In Labé, 1 hospitalized patient had HIV-1 antibodies while 127 subjects from general population were HIV-1 and LAV-2 seronegative.

This study shows a prevalence of 0.67% (9/1345) in the population tested. The highest rate was found in tuberculosis patients (6/251). 7/9 of HIV-1 and LAV-2 positive patients were males.

Presence in Guinea of both HIV-1 and LAV-2 is evidenced by this study. The low prevalence of HIV infection in this country is an argument to undertake rapidly management for prevention of transmission, such as blood bank screening, before the extent of the retroviral infections.

We thank C.E. De TSEKLAES for assistance, Drs F. Brun-Vezinet, C. Katlamé, Pr S. M. Boup, Dr. J. J. Fournel for testing the sera.

TH-16**SEROLOGIC ANALYSIS OF 42 AIDS CASES FROM IVORY COAST**

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42 serum samples from AIDS cases collected in Ivory Coast were analyzed for reactivity to HIV-1/HTLV-3B and HIV-2/HTLV-4 by radioimmunoprecipitation SDS/PAGE and immunoblot analysis. 17 of 42 (40%) were found to be seronegative to both viruses. Of the remaining 25 seropositive AIDS cases, 10 of 25 (40%) were seropositive to HIV-1 viral antigens alone. 11 of 25 (44%) showed reactivity to the env encoded antigens of both HIV-1 and HIV-2 including: the gp120, gp160, and gp41 of HIV-1, and the gp120/gp160, gp32 of HIV-2/HTLV-4. 4 of 25 (16%) of these individuals showed reactivity to the transmembrane proteins of HIV-2 alone, without reactivity to any of the gag-encoded antigens.

These studies indicate that a number of the "AIDS" cases were seronegative for both viruses, perhaps indicating that clinical definitions for AIDS may vary widely in different clinical settings. Of the seropositive AIDS cases, 84% of these demonstrated reactivity specific to HIV-1 viral env and gag antigens, with 40% showing HIV-1 reactivity alone and 44% showing reactivity to the env antigens of both HIV-1 and HIV-2/HTLV-4. Finally a minority of cases showed reactivity to HIV-2 with an atypical profile that has been demonstrated in less than 10% of the HIV-2 seropositive individuals surveyed in West Africa. This profile has been more frequently associated with disease and indicates that HIV-2 virus may be associated with immunodeficiency and AIDS, although the penetrance and pathobiology of this virus appears to differ quite remarkably from that of HIV-1.

TH-17

CO-EXPOSURE TO THREE HUMAN RETROVIRUSES (HTLV-1, HIV-1, HIV-2) IN PROSTITUTES AND PREGNANT WOMEN IN IVORY COAST,
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HTLV-1 has been present probably for a long time in Africa. HIV-1 emerged recently in West-Africa and HIV-2 (HTLV-4/LAV-2) is prevalent in this area. These three retroviruses have almost the same modes of transmission in Africa, i.e., heterosexual, blood and mother-infant transmissions. Interactions between these human retroviruses may modify their individual pathogenicity. This hypothesis requires investigations to evaluate the prevalence and incidence of coinfections. In this preliminary study the sera from 105 prostitutes and 268 pregnant women living in Ivory Coast were tested for :

- antibody (Ab) to HIV-1 and HIV-2 by ELISA kits, the serotype being determined by Western-blots using both viruses,
- Ab to HTLV-1 by immunofluorescence and ELISA, then by Western blot as confirmatory method.

The results are summarized in the table :

Ab to HIV-1	Ab to HIV-2	Ab to HTLV-1			
		Prostitutes		Pregnant women	
+	+	0	5	0	0
+	-	5	15	0	7
-	+	5	5	0	1
-	-	5	63	6	254

TH-18

HIV AND RELATED HUMAN RETROVIRUSES SEROPREVALENCE IN OUAGADOUGOU, BURKINA-FASO.

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779 sera from hospitalized patients in Yalgado hospital, prostitutes, pregnant women, STD patients and prisoners were tested for the presence of antibody to HIV-1 and HIV-2_{HTLV-4} by western blot and radio-immunoprecipitation. Hepatitis B surface antigen detection (Abbott ELISA) and syphilis serology were performed on the same serum samples.

The results showed a seroprevalence of 11.7% for HIV-1 or HIV-2. HIV-1 antibodies are present in 3.1% of the serum samples and HIV-2 antibodies in 7.7 %. mainly in prostitutes and patients with sexually transmitted diseases (STD). 0.9% of prostitutes showed reactivity to both HIV-1 and HIV-2 . The HBs Ag has been detected in 18.2% of sera and syphilis in 6.2%.

These results indicate that health authorities should initiate a prevention plan against AIDS in Burkina-Faso as soon as possible.

TH-19**FIRST CASES OF ANTI HIV 1 SEROPOSITIVITY IN BENIN (WESTERN AFRICA)**

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In order to evaluate the prevalence of anti HIV 1 antibodies in an area of Western Africa, we tested from June 86 to January 1987, the sera of 2379 subjects Cotonou (capital of the republic of Benin with a population of 300,000). There were 1286 blood donors, 878 pregnant women and 215 female prostitutes. Anti HIV-1 antibodies were detected by Elisa (Organon) and positive sera were confirmed by immunofluorescence (HIV 1 infected CEM Cell line) and by Western blot.

Results, detailed in table I, show that no positive result was found among blood donors and pregnant women, contrasting with the 8 to 18 seroprevalence rate found among blood donors in Uganda, Rwanda and Zaire. On the other hand, 7 prostitutes (3,3 %) were found to be positive. They all are of low social economic status and originate from Ghana.

There seems to be a great geographical mobility of the female prostitutes in this part of western Africa between Ghana, Togo and Benin. Nevertheless, the seroprevalence in Cotonou prostitutes is clearly lower than the one found in Central and East Africa cities which varies from 55 to 80%. Since the seropositivity in Cotonou is at the moment the same as in Nairobi in 1980-81 (4. but 59% in 1986) it will probably rise rapidly in the next years.

Table I :

	Blood donors	Pregnant women	Prostitutes
n tested	1286	878	215
n positive (%)	0 (0)	0(0)	7(3,3)

TH-20**SEROEPIDEMIOLOGY OF HIV INFECTION IN RURAL AREAS OF NIGERIA AND AN EVIDENCE OF A NEW HIV RELATED VIRUS.**

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Samples from population living in both rural and urban areas of Nigeria were screened for both HIV-I and HIV-II infection and results obtained were analysed and compared. The total prevalence of HIV-I infection obtained was about 0.5 %. Very few of the ELISA positives were confirmed by the confirmatory methods. Variety of protein pattern not characteristics of the known HIV Viruses were seen. Our findings may indicate the presence of another HIV related virus in Nigeria.

A relatively low prevalence of antibodies to HIV-I & HIV-II seen among the Nigerian population, particularly the absence of the evidence of HIV-I & HIV-II infections in the rural population so far tested seems to indicate that infection caused by these viruses is alien to Nigeria and has probably been recently introduced.

TH-21 HUMAN RETROVIRUSES RELATED TO HIV IN CAMEROON, CENTRAL AFRICA.

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596 Serums samples were collected in Cameroon from 4 different cities: Fouban, Yaounde, Ebolowa, Bertoua in 1986 in order to screen for antibodies to HIV types of viruses. The population under study was grouped as follows: Prostitutes and STD patients from Yaounde, Bertoua, and Ebolowa hospitals and prisons as risk group(N=242), hospitalized patients as a separate group(N=204), pregnant women and healthy adults as control(N=150).Sex and age distribution in the total population was 344 males (57.7%), 252 females (42.3%) with a mean age of 26.8 years for males and 23.7 years for females. The blood screening was performed by Elisa (Abbott) and then by Western blot or Radioimmunoprecipitation using HIV-1 and HIV-2 HTLV-4 as antigenic probes. Also syphilis antibody and HBs antigen have been screened on the same population to see any correlation between these infections.

None of the tested serum samples were positive for any HIV-1 or HIV-2HTLV-4 antibodies, which represents a rare situation in Africa. However, the seroprevalence for HBsAg was 13.7% and 8.2% for syphilis which is very similar to what has been described in neighboring countries.

TH-22 PREVALENCE OF ANTIBODIES TO HTLV-III AND HTLV-I IN SOME AFRICAN AREAS

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Regarding AIDS in Africa, there are two theories: the first assumes that AIDS originated in Africa and from there the infection spread to Haiti and the USA; the other is, that AIDS appeared and spread simultaneously in Africa and America. We carried out an epidemiological survey in some East and West African countries studying a bunch of 942 sera collected at different times in different areas: Somalia (1975), Seychelles (1977), Pemba Island, Tanzania (1980), Camerun (1984), Ile de Bioco, Equatorial Guinea (1985). Using IFI and ELISA tests no antibodies against LAV/HTLV-III were observed among the different groups of sera, and neither in the 6 sera from Kaposi's sarcoma patients (Camerun). With the IFI test on non infected cell lines and other controls, 5% of false positivity was observed, especially amongst Somalian patients suffering from leprosy. The high titres of auto-antibodies and circulating immune-complexes in lepromatous leprosy could explain the false positive results recorded in our patients. The negativity of both tests (IFI and ELISA) in Kaposi's sarcoma patients confirms the observation that the Kaposi's sarcoma endemic in Africa differs from the form of disseminated tumor observed in American AIDS patients. Regarding the presence of HTLV-I antibodies, in the Seychelles sera the prevalence was 13% (unpublished data), against 0.4% observed in Equatorial Guinea and negative results obtained in Pemba sera. It is interesting to note that in the Seychelles the Tropical Spastic Paraparesis, a neuromyelopathy presumably associated with HTLV-I, has recently found to be endemic.

TH-23**SEROLOGIC PROFILES OF CENTRAL AFRICAN AIDS PATIENTS TO HIV-1 ANTIGENS**

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Serum samples from 122 confirmed AIDS cases were analyzed for reactivity to HIV-1 viral antigens by radioimmunoprecipitation analysis and SDS-PAGE (RIP-SDS/PAGE) on HIV-1/HTLV-III B infected Molt-3 radiolabelled cell lysates. 112/122 (97%) of these HIV-1 positive sera reacted to the full complement of env- and gag- encoded antigens including: gp160, gp120, p55, and p24. Variable reactivity was seen to the p17, gag-encoded antigen and the p31, 3'orf encoded antigen. All of these samples were additionally analyzed for cross-reactive antibodies to the simian related virus, HIV-2/HTLV-4 by RIP-SDS/PAGE analysis. Of the 112 HIV-1 antibody-positive samples that reacted to both the env and gag antigens of HIV-1, 4% (5/112) failed to cross-react to any of the HIV-2/HTLV-4 viral antigens. 25% (28/112) reacted to the p55 and p24 of HIV-2/HTLV-4 and 67/112 (60%) cross-reacted to the gp160 env precursor as well as p55 and p24 gag antigens. 12 of 112 (11%) only cross-reacted to the precursor gp160 of HIV-2/HTLV-4.

These results indicate that the majority of AIDS patients in Central Africa show reactivity to the gag-encoded antigens of HIV-1 including gp24. This is in sharp contrast to the apparent "loss of p24 antibodies" that has been described for certain US and European AIDS patients. In addition, the cross-reactivity of HIV-1 exposed individuals in Central Africa shows a significant degree of cross-reactivity to the related virus, HIV-2/HTLV-4, with over 96% of these samples cross-reacting to some of the HTLV-III viral antigens. The majority of the cross-reactive antibodies were directed to the conserved gag-encoded antigens and a smaller proportion of these were reactive to the precursor gp160. None of these samples analyzed in this study showed specific reactivity to the mature envelope protein of HIV-2/HTLV-4. This further indicates that a specific serologic diagnosis of HIV-1 or HIV-2 virus infection necessitates analysis with a confirmatory assay such as RIP-SDS/PAGE or immunoblot.

TH-24**ABSENCE OF HIV-2/HTLV-4 IN CENTRAL AFRICA.**

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AIDS and HIV-1 have been observed at high rates in discrete urban areas of Central Africa. This study was conducted to assess the prevalence of HIV-2/HTLV-4 in 7 countries of Central Africa and to determine any association with AIDS or a related disorder. Serum samples from healthy controls, tumor patients, ARC, tuberculosis, STD patients, and AIDS were kindly provided to us as a collaborative study with T. Quinn, N. Clumeck, F. Mawovondi, I. Lausen, D. Zagury, L. Thiry, J. Craighead, C. Saxinger, and L. Falk; Zaire, Cameroon, Zambia, Kenya, Tanzania, Burundi, and Uganda were represented in the sample population.

All 1,430 serum samples were analyzed by radioimmunoprecipitation and SDS/PAGE and immunoblot for antibodies to HIV-2/HTLV-4. The cross-reactivity between HIV-2/HTLV-4 and HIV-1 antigens has been well documented and appears to be the strongest in gag and pol encoded antigens. Therefore, a positive HIV-2 response was distinguished by a specific response to the env antigens, the gp160/120 and gp32 (transmembrane). NONE of the 1,430 samples analyzed demonstrated antibodies to the env-related antigens of HIV-2/HTLV-4; in HIV-1 antibody positive samples, cross-reaction to the gag and pol antigens of HIV-2/HTLV-4 was frequently observed.

HIV-2/HTLV-4 was not detected in 7 central African countries surveyed, whereas HIV-1 in association with AIDS and related disorders was quite common. Further study on these two viruses of apparently differing pathogenicity will be important to our general understanding of various members of this family of viruses and how they have evolved.

TH-25

ABNORMAL SEROLOGICAL RESPONSES FOR HIV 1 AND HIV 2 IN SOME PYGMIES FROM CENTRAL AFRICA.

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We have analysed 184 sera from pygmies living in south Central African Republic for HIV 1 and HIV 2 antibodies. 165 sera were negative for HIV 1 and HIV 2 antibodies by ELISA. 10 sera were positive for HIV 1 antibodies by 2 ELISA. By Western blot analysis, they were reacting only with the p18, p25, p40 and p55 proteins and sometimes gave other non specific bands but according to general criteria, they cannot be considered as HIV 1 positive. 9 sera were positive for HIV 2 antibodies by ELISA ; one was also positive in HIV 1 ELISA. However, none of them was confirmed by Western Blot since a reactivity only to the core proteins p16 and p26 was observed. So far, we cannot explain the cross-reactions of these sera with the internal proteins of HIV 1 and HIV 2. However, our results suggest that the prevalence of HIV antibodies in pygmies is lower than in the urban or suburban population of the Central African Republic.

TH-26

TENTATIVE DETERMINATION OF AIDS INCIDENCE AND RISK FACTORS IN THE CAR.

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In order to evaluate risk factors for heterosexual transmission of Human Immunodeficiency Virus (HIV) in Central African Republic, we compared immune response to others sexually transmitted agents (T. pallidum, C.trachomatis and HB virus), in a randomly selected population, over a two years period. From 1986 to 1987, although the ratio of HBs positives/T.pallidum (TPHA) positives remained the same, the percentage of HIV-1 positives within the TPHA positive population grown from 3.3 % to 17.7 %

Then, to assess the putative role of risk group populations as reservoir, we surveyed a cohort of 99 prostitutes over a 18 month - period. Only 26/99 had no venereal disease during the study, while 24/99 had gonorrhoea at least once, and 4/99 had chancroid, without immunological traces of treponema or/and HIV infection. In 26/99 patients, anti-treponema antibodies appeared during the survey, associated in 9 cases with gonorrhoea, and with chancroid in 2 cases. In 6/99 prostitutes, antibodies against both T.pallidum and HIV-1 appeared, associated with gonorrhoea (3 cases) chancroid (1 case) or candidosis (1 case). 13/99 became HIV seropositive, associated with gonorrhoea in 3 cases, chancroid in 1 case and both in 1 case. This indicates that, although T. pallidum is still more frequent than HIV in african prostitutes, with time HIV-1 spread will tend to resemble the epidemiological pattern of syphilis.

TH-27 SEROLOGICAL SURVEYS OF HIV ANTIBODIES IN CENTRAL AND EAST AFRICA.

M.C. Georges-Courbot, M. Merlin, P.M.U. Martin, J.P. Gonzalez, D.Salaün, and A.J. Georges.

Since 1985 4649 randomly selected sera from 6 different countries of central and east Africa have been tested for HIV-1 antibodies and 635 for HIV-2 antibodies. All the HIV-1 or HIV-2 Elisa positive sera were checked by western blot. The prevalence rates of HIV-1 antibodies were as follows: very low in rural areas: Mora, Cameroon-1985: 0% (322 sera); higher in semi rural-areas: Pointe-Noire, Congo-1985: 0% (360 sera), Maroua, Cameroon-1986: $0.5 \pm 0.7\%$ (364 sera), Bambari, CAR-1987: $3.7 \pm 2.4\%$ (374 sera), Bioco, Equatorial Guinea-1985: $0.3 \pm 0.6\%$ (308 sera); generally still higher in capitals: Njamena, Tchad-1986: $0.3 \pm 0.6\%$ (331 sera), Bangui, CAR-1986: $4.04 \pm 1.5\%$ (940 sera), Brazzaville, Congo-1986: $4.6 \pm 2.9\%$ (368 sera). In Maputo, Mozambique-1987, the incidence rate was 0% in blood donor samples (121) and $2.5 \pm 2.7\%$ in risk group samples (131).

A three year survey in randomized populations of Bangui (CAR) has shown a significant increase of HIV-1 antibodies rate: from $2.1 \pm 1.4\%$ in 1985 to $4.04\% \pm 1.05\%$ in 1986 and to $7.8 \pm 2.8\%$ in 1987.

Extensive cross reactions between HIV-1 and HIV-2 were noted in Elisa while in Bangui all the sera positive by HIV-2 WB were also positive by HIV-1 WB which seems unlikely to be due to true infection by both types of virus and remains unexplained.

Sero prevalence of HIV-1 antibodies are dissimilar in Central Africa, showing probable various epidemiological patterns. The high percentages of Elisa positive sera as compared to WB confirmed sera remains unexplained. Seroprevalence is significantly higher in the group who claims sexual promiscuity and doubles each 12 to 24 months.

TH-28 HIV-RELATED VIRUS IN GABON

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During epidemiological surveys in Gabon (1986), 2.8% of the 2624 adults studied were HIV1 and/or HIV2 ELISA positive but did not fit the criteria for anti-HIV1 and/or anti-HIV2 positivity. All WB patterns showed antibodies to the gag antigens; in addition, 22% of the sera had another band of about 37 kD. Reverse transcriptase activity (RTa) was detected in the cell-free supernatants of peripheral blood lymphocyte cultures from 3 of these subjects at day 21. The RTa persisted at the same level (50×10^3 cpm/ml) without peak and with no obvious cytopathic effect on the infected T lymphocytes. No decline of the lymphocyte proliferation was observed. The cell-free supernatants reacted with HIV1 polyclonal antibody by an antigen capture assay. By an indirect IF assay the cultured infected T lymphocytes reacted obviously with the serum of this subject and weakly with human HIV1 antibodies. Southern blot analysis showed a weak hybridization with the entire HIV1 genome in conditions of high stringency. Nucleotide sequencing is in progress. All the 76 subjects with this serological profile were healthy.

TH-29

PREVALENCE RATES OF ANTIBODIES TO HIV1 AND HIV2 IN POPULATION SAMPLES FROM GABON
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Five cluster sample surveys were conducted in 1986 in Gabon on 1874 symptomless subjects aged 15-44 yr in urban (Libreville 383 subjects, Port-Gentil 385), semi-rural (Franceville, Gabon 371) and rural (north 360, south 385) areas. Two cluster samples comprising 665 symptomless children aged 1-14 yr were studied in Libreville (329) and Franceville (336). Sera were tested for antibodies to HIV1 and HIV2 by ELISA (Diagnostics Pasteur). Positive and borderline results were tested by the corresponding Western Blot (WB) (Diagnostics Pasteur). The sera of children were tested for HIV1 only. The criterion for WB positivity was the presence of antibodies to one of the envelope antigens (gp41, gp110 for HIV1, gp 36/41, gp105 for HIV2). In adults, the prevalence rate of anti-HIV1 was 1.8% in Libreville, 0.5% in Port Gentil, 0.3% in Franceville, 0.8% in the southern rural area, 0% in the north. Only two subjects were anti-HIV2(+). None of the children were anti-HIV1(+). 55 (2.9%) of the adults were HIV1 and/or HIV2 ELISA(+) but did not fit the criteria for WB(+). All HIV1 and HIV2 WB patterns revealed antibodies to the gag antigens in all these cases. In addition, 6 (10.9%) of the 55 sera showed antibodies to one of the pol antigens (p34, p64) and 10 (18.2%) showed another band of about 37 kD. A similar pattern was observed for the five HIV1 ELISA(+) WB(-) children. Such patterns suggest the occurrence of HIV-related retroviruses.

TH-30

HIV-ANTIBODIES IN PROSTITUTES, BRAZZAVILLE AND POINTE-NOIRE (Congo)

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Congo is located in Central Africa, West to Zaire. Brazzaville, the main town, is on the river Congo, in front of Kinshasa. Pointe-Noire is on Ocean-shore. It is the second town of the country, the economical main town and the harbour of the country.

During February and April, 1987, prostitutes were tested for HIV antibodies with an ELISA commercial kit (ELAVIA, Diagnostics Pasteur). Reactive sera were shipped to Paris for Western-blot confirmation.

. In Brazzaville 67 prostitutes were tested and 23 (34%) were ELISA repeatedly positive.

. In Pointe-Noire sero-prevalence was higher (25 positive out of 39, p 0.02) probably because the harbour activity of the town.

In blood bank donors, sero-prevalence is 7,61% in ELISA.

Western-blot was available for the sera of Pointe-Noire, 18 (46,1%) were core and envelope positive, 5 (12,8%) were core positive, 16 (46,1%) were only p25 positive. Western-blot for Brazzaville is under progress.

TH-31 HIV-INFECTION IN IN-PATIENTS - BRAZZAVILLE - CONGO

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Between November 1st, 1986, and April 30th, 1987, all in-patients of the General Hospital of Brazzaville were systematically tested for HIV antibodies using an ELISA commercial kit (ELAVIA, Diagnostics Pasteur). Reactive sera were shipped to Paris for Western-blot confirmation.

1050 adults were tested ; 350 (33,1%) were repeatedly positive in ELISA ; among them 212 had AIDS according to WHO clinical definition for Africa.

714 patients were hospitalized in the Department of Internal Medicine and Gastro-Enterology, 235 (32,9%) were positive ; in the Department of Internal Medicine and Cardiology, 47 were positive out of 78 tested (23,5%), in the service of Pneumology 49 (62,8%) out of 78, in Neurology 19 (33,9%) out of 56, in Psychiatry 4 (40%) out of 10.

94 children under 15 years old were also tested, 39 (33,9%) were positive out of 94.

Western-blot was available for 88 patients, 75 (85,2%) were core and envelope positive, 7 (7,9%) were only core positive and 6 (6,8%) were only p25 positive.

31 spouses of HIV positive patients were tested ; 22 (71%) were positive, 3 had AIDS according to WHO definition.

TH-32 SERO-PREVALENCE OF ANTI-HIV ANTIBODIES IN BLOOD DONNORS, BRAZZAVILLE (Congo)

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Congo is located in Central Africa, West of Zaire. The first cases of AIDS were reported in 1983. A commercial ELISA kit (ELAVIA, Diagnostics Pasteur) is used and 8009 blood donors were tested between October 1st, 1986 and April 30th, 1987 among which 610 were repeatedly reactive (7,61%).

Sex ratio of positive donors is near 1, Western-blot confirmation is under progress.

TH-33**URBAN TO RURAL SPREAD OF HIV INFECTION IN DUNGU, ZAIRE**

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In January 1986, a survey was made in the Dungu area of northeastern Zaire, a remote and sparsely populated region with no documented AIDS cases. The Azande living there are a declining population with high female infertility ascribed to venereal disease.

In people not suspected of HIV disease, anti-HIV was present in (a) 8 of 33 (24 %) adults at Dungu with strong links to the local capital of Isiro; (b) in 9 of 170 (5 %) of sedentary Dungu adults; and (c) in 1 of 222 (0.4 %) adults and none of 170 children in the nearby village of Ndedu. A spot-check showed 9 bona-fide AIDS cases, all in Dungu and all except one in people with strong links to Isiro or more distant cities.

Prostitution was a risk factor for HIV infection. Venereal disease and the use of nonsterile needles were not clearly identifiable as risk factors because they were ubiquitous in all subgroups. Markers of hepatitis B were equally prevalent in all adult subgroups. All HIV infections and the clinical AIDS cases except one were confirmed as due to HIV-1; HIV-2 was not found.

Subsequent samplings are in line with the above findings, except that a larger proportion of AIDS cases are now in sedentary Dungu adults. This is a clear model of urban to rural spread of HIV in a remote area previously unsuspected of HIV infection.

TH-34**DISTRIBUTION OF ANTIBODIES TO HIV1 IN AN URBAN COMMUNITY (ARU, UPPER ZAIRE)**

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The prevalence rate of antibodies to HIV1 (anti-HIV1) has been measured in 319 asymptomatic subjects over 15 years of age living in the city of Aru (about 10,000 inhabitants) in Upper Zaire located on a busy road near the Ugandan border. The M:F sex ratio of the study population was 1.7 and the mean age 32.7 yr (range 17-75). Serum samples were tested by ELISA and, when positive or borderline, by Western blot (WB). The overall prevalence rate of anti-HIV1 was 5.3%. No difference was observed according to age, sex and marital status. The prevalence rate was higher in the market district (10.6%, 17/160) than in other less crowded districts of the city (0/159) ($\text{Chi}^2=19.0$, $\text{df}=1$, $p<10^{-3}$). The prevalence rate was lower in the L. ethnic group which were the first inhabitants of the city (1.4%, 3/211) than in other ethnic groups (13.0%, 14/108) ($\text{Chi}^2=18.6$, $\text{df}=1$, $p<10^{-3}$). In the market district, the prevalence rate of anti-HIV1 was lower in the L. ethnic group (4.1%, 3/73) than in other ethnic groups (16.1%, 14/87) ($\text{Chi}^2=6.2$, $\text{df}=1$, $p<0.02$). These results demonstrate high prevalence rates of anti-HIV1 in a busy border city of Central Africa and show a heterogeneous distribution demonstrating the need for further community based studies.

TH-35**PREVALENCE OF HIV AND HTLV-IV INFECTIONS IN ANGOLA.**

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A seroepidemiological study of HIV and HTLV-IV infection was performed in the capital Luanda and in the Cabinda district, which is situated as an enclave between Kongo and Zaire, in Angola in October 1986. Sera from groups of healthy subjects and groups of patients were screened for HIV and HTLV-IV antibodies by ELISA. All screening positive sera were tested by Western blotting with HIV and/or HTLV-IV antigens. In Luanda HIV antibodies were demonstrated in 2/452 (0.4%) male blood donors, in 1/357 (0.3%) pregnant women, in 1/100 (1%) patients hospitalized with tuberculosis, in 4/94 (4%) patients at medicine wards and in 0/22 women hospitalized with pelvic infections. In Cabinda 4/38 (11%) women at a maternity ward were found HIV-seropositive, but only 1/52 (2%) of other hospitalized patients and none of 31 male blood donors or 59 healthy persons in a village on the border of Zaire. Specific antibodies to HTLV-IV were not found in any of the sera. HIV infection exists in Angola, but not to the same high extent as in some neighbouring countries in Central Africa.

TH-36**PREVALENCE OF ANTIBODIES TO HIV IN A RURAL AREA OF BURUNDI**

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Up to March 1987, Burundi has reported to WHO 128 AIDS cases. Nevertheless, only few data about the prevalence of the infection in the country are available.

We present here an hospital-based survey performed in Butezi, a rural area in Ruyigi region. Butezi extends over 120 sq.km and is inhabited by nearly 1000 persons, with a density far lower of the national average. The inhabitants are mainly peasants, and the roads are nearly nonexistent. Even the communications with Ruyigi, the district capital, are difficult. The sera examined were collected in 1986 from 158 (64 males, 98 females; age range 15-65 years, av. 26.3) outpatients of Butezi hospital affected with: sexually transmitted diseases (STD) 65, urinary tract diseases (UTD) 22; malaria 19, viral hepatitis 8, Pulmonary tuberculosis (TB) 6, miscellaneous 38.

Sera were tested for antibodies to HIV by two commercially available ELISA test (Abbott, Wellcome) and on those with absorbance rate cut off value (21/158) confirmatory Western Blot (Biorad) was run. Among the W.B. confirmed sera (16/158) 12 were of people affected with STD (18.46%). In the others, the prevalence was 4.3% (4/93). Our results confirm a higher prevalence of HIV infection in subjects with a history of STD and indicate a rapid spreading of the virus even in a rural area with little or no contact with the urban areas.

TH-37

Cross Sectional Study of HIV Infection in South Western Uganda.
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Heterosexual transmission of HIV in Uganda is well known but the prevalence is not well known. This study was to determine the seroprevalence, risk factors and morbidity of HIV in this rural community. 400 participants were seen. 40% high risk, 31% normal risk and 22.7% children. 07.7%, 17.7% and 1.1% were seropositive for HIV respectively. There was a significant difference in these groups $p=0.0000$. M/F ratio was 1.1.3. HIV was associated with number of sexual partners in high pop. only $p=0.0002$. Having more than one sexual partners had OR 3.09 95% CL 1.4-6.39 in high risk pop. No significance in normal risk. Marital status was associated with HIV $p=0.002$ in normal risk pop. only. Divorced had an OR of 4.49 95% CL 1.42-14.25. Injections were associated with HIV $p=0.0000$ and OR 4.3. 95% CL 2.1-8.4. Posterior cervical nodes (PCN) were associated with HIV in all the pop. groups $p=0.0001$. PCN used as a screening sign had sensitivity of 93.18% in high risk pop and 85.7% in normal risk. HIV was associated with HZ Fisher test 0.032 in high risk pop. There was a strong association between HIV and lues $p=0.004$. No association was found between HIV and HBV. We conclude that HIV is a big problem in this rural area with high risk pop. as the reservoir. Injections, number of sexual partners, STDs are big risk factors. Analytical studies are needed.

TH-38

LOW PREVALENCE OF HIV ANTIBODIES IN A REMOTE AREA OF KENYA

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In summer 86 a survey of HIV infection was performed in Sololo Isilolo in North Eastern part of Kenya. Serum samples were available from 92 outpatients and 11 inpatients of Sololo Mission Hospital. Participants, 54 male, 49 female, with age ranging between 12 and 70 av. 34.6 had at least one of the following: fever, weight persistent cough, pulmonary abnormalities. Sera were tested for antibodies to HIV by two commercially available enzyme-linked immunosorbent assays (Abbott or Wellcome) and those with an absorbance rate cut-off value in at least one assay, confirmed by Western Blot (Biorad). Only one of the two Elisa positive sera was confirmed by W.B. (0.9%). Our data show a prevalence of HIV antibodies in this part of Kenya significantly lower than in other areas of the country. The inhabitants, mainly shepherds, report few contacts with towns and rare travelling outside the district. This observation is a further confirmation of a dishomogeneous spread of infection and displays the urgency of public health programs to limit virus diffusion.

TH-39 AIDS STUDIES IN KENYAN HAEMOPHILIACS

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51 black kenyan patients with, haemophilia A(40), Christmas disease (8) and Von Willebrand's disease (3), were tested for HIV antibodies with an ELISA test. Positive results were confirmed by Western blot analysis. 12 of the 40 patients (30%) with haemophilia A were seropositive. None of the patients with Christmas disease or Von Willebrand's disease were seropositive. Our results indicate a link between the use of commercial factor VIII concentrates and seropositivity. These studies also indicate that the rate of exposure of the Kenyan haemophilic to the HIV virus is not as high as reported elsewhere which is probably explained by the very limited use of factor concentrates. None of the 51 patients tested have clinical AIDS but 4 seropositive patients have extralingual lymphadenopathy and one of these 4 has had an episode of Herpes Zoster infection.

The second phase of these studies includes alterations of T-cell subsets in these patients.

TH-40 SEROEPIDEMIOLOGY OF HUMAN RETROVIRUS INFECTIONS (HIV-1, HIV-2, HTLV-I) IN RURAL REGIONS OF KENYA AND TANZANIA

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It is known that human Retrovirus infections are endemic in Africa. This is very important, from an epidemiologic point of view, both to explain the natural history of these infections and for the problems connected with the more and more frequent movements of people between European and African Continent. Seroepidemiological researches are carried out in Institute of Hygiene of the University of Genoa to evaluate the prevalence of the above mentioned infections. A first study, carried out in 1985-86, concerned sera collected in 1975 from 100 subjects living in rural regions of Tanzania, which showed a high prevalence of Hepatitis B markers (Crovari, 1979). A further investigation was performed on 343 samples collected in the period May-June 1986 in a Kenyan rural area adjacent to the Tanzanian border. All sera were tested for antiHTLV-I, antiHTLV-III/HIV-1 and some of them for antiHIV-2 by using commercial EIA kits. The reactive samples were then analysed by Western Blot (W.B.). The results obtained for antiHIV-1 and for antiHTLV-I are rather difficult to be interpreted owing to a few sera samples give not a typical W.B. pattern (see table). Nevertheless, our researches seem to emphasize that HIV-1 infection was absent in 1975 and spread in a slight way in 1986 among rural peoples we studied, while HTLV-I infection would result more frequent. The atypical W.B. patterns observed by us may be explained either through the circulation of retroviruses similar to the above mentioned or some interfering seric factors. All the samples tested, including the ones with W.B. unusual pattern, resulted negative for antiHIV-2.

STUDY SUBJECTS	antiHTLV-III/HIV-1					antiHTLV-I				
	EIA		Western blot			EIA		Western Blot		
	NR	R	NR	RT	RA	NR	R	NR	RT	RA
1st '00	193	7	2	0	5	189	11	3	3	5
2nd 343	1327	16	2	1	13	1308	38	7	19	12

NR: not reactive R: reactive RT: reactive typical RA: reactive atypical

TH-41

AIDS IN THE NORTHERN ZONE OF TANZANIA
KILIMANJARO CHRISTIAN MEDICAL CENTRE - NORTHERN TANZANIA

W.P. HOWLETT, PHYSICIAN; W.NKYA, SCIENTIFIC OFFICER; K.A. MNUHI, PHYSICIAN.

AIDS IN THE NORTHERN ZONE OF TANZANIA.

During the period March, 1984 and June, 1987 a total of 100 patients were identified as satisfying the adult criteriae for AIDS. All patients were positive for Human immuno deficiency virus (HIV) antibodies by ELISA. Confirmation tests were done with Western Blot & immuno fluorescence. The first clinically suspected cases of AIDS was confirmed in March, 1984. The total number of AIDS patients identified in the last 8 months was 60. The male female ratio was 2:1. The mean age for males was 32 years (range 22-60) and females 28 years (range 19-41). The mean duration of symptoms on admission was 5.25 months life expectancy was seven months in 10 patients. 80% of the females were either single, divorced or widowed; nearly all had children. 60% 66% of the males were married mostly with children. Among the AIDS patients weight loss (98%) was the commonest finding. Weakness (97%) wasted (95%) Diarrhoea (78%) skin disease (63%) Candidiasis (62%) Lymphadenopathy (33%) Retinopathy (25%) Kaposi Sarcoma (12%).

The main clinical neurological findings are described. Only 2 patients gave a history of Blood transfusion prior to the onset of symptoms without any other known risk factors. (3 and 5yrs) Travel abroad/Tanzania was a risk factor in 55% Promiscuity in 48% and a previous history of sexually transmitted disease within 5 years in 35% Death of a spouse from AIDS occurred in 2 patients. 25 cases of Oesophageal Candidiasis were identified during 1073 gastroscopies performed at KCMC in 1986 21 were male. Laboratory investigations: Showed a mean, HB of 9 gms%, ESR of 67mm/hr and normal or low white cell count. Virology studies confirmed the association between AIDS and cytomegalo virus. Herpes simplex virus and Ebstein Barr virus. A probable case of Human polyoma virus is described. 14% of patients showed significant titres of antibodies to toxoplasmosis by both compliment and immuno fluorescence.

This paper records the emergence of AIDS (The slim disease variety) in Northern Tanzania as seen by the Author from the start of the epidemic.

TH-42

HIV INFECTION IN TANZANIA: INITIAL OBSERVATIONS

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Unconfirmed cases of Acquired Immune Deficiency Syndrome (AIDS) were reported from Kagera Region of Rural Tanzania towards the end of 1983. During the period of January 1984 cases were referred to Muhimbili Medical Centre Dar es Salaam for Clinical and Laboratory confirmation.

The present communication describes important clinical and laboratory findings of 153 patients examined. Possible modes of transmission are discussed.

TH-43**PREVALENCE OF HIV-ANTIBODIES IN POPULATION GROUPS IN TANZANIA**

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The first cases of AIDS in Tanzania appeared in late 1983, and since then the number of cases has risen to a total of 1130 cases by 18 April this year. We have made some anti-HIV prevalence studies in early 1985 and recently, and have compared the results with data reported by others. We conclude that the number of infected individuals has increased corresponding to a doubling time of 8 to 9 months in the adult population living in Dar es Salaam. There were no seropositives in a group of 147 children.

Continuation of similar studies in Dar es Salaam and other parts of the country can provide useful information on effectiveness of ongoing AIDS control measures.

TH-44**PREVALENCE OF HIV-1 IN SELECTED POPULATIONS AND AREAS IN MALAWI**

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To obtain some estimate of the distribution of HIV-1 and HIV-2 in Malawi in 1986, sera from groups at risk and not at risk were analyzed for HIV antibodies. Anti-HIV 1 was tested with a commercially available ELISA; reactive results were confirmed by immunofluorescence and immunoblot. The highest anti-HIV-1 prevalence was found in female prostitutes of whom 148/265 (56%) were positive. The infection rate with hepatitis B virus (HBV) was even higher with 219/265 (83%) positive. In 1986, the anti-HIV-1 prevalence in pregnant women was 4% (4/96) but all positive women came from 2 towns. Ten of 32 male prisoners were anti-HIV-1 positive. In 1987, a more extensive study was initiated; initial examination of 1260 sera showed a slight further increase. Fifty sera from prostitutes were screened for anti-HIV-2 by an ELISA established in our laboratory; reactive results were analysed further in LAV-2 infected HUT-78 cells and immunoblot. HIV-2 antibodies were not detected in the 50 sera.

TH-45**PERSPECTIVE OF AIDS IN SOUTH AFRICA**

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By the end of March 1987, 63 cases of AIDS had been diagnosed in South Africa, all of which were white males belonging to the high risk group characteristically seen in Western countries. Epidemiology studies were done on a population of 56 black prostitutes "servicing" a large industrial complex north-east of Johannesburg and on 195 black females attending the major Johannesburg clinic for sexually transmitted diseases (STDs) to determine the incidence of AIDS in a susceptible black population.

All sera were examined for HIV antibodies both by ELISA (ELAVIA-Parkeur Institute) and by direct immunofluorescence (IF) using HIV-infected H9 cells. None of the prostitutes and only one of the STDs attendees, a migrant from Malawi, were positive for HIV antibodies. This confirmed that African AIDS has not, as yet established itself in South Africa.

A new epidemiology study has been initiated in prison populations, and sera are being tested for HIV antibodies both by ELISA (ELAVIA) and by IF. So far 98 prisoners have been tested and only two were found positive.

TH-46**LACK OF HIV SEROPOSITIVITY IN A SELECTED POPULATION OF SOMALIA**

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Although the presence of HIV infection in Central Africa is well documented, data related to some countries of Eastern of Africa are scanty. In a previous study we have not found anti-HIV antibodies in serum samples collected between 1978 and 1984 among Somali population living in Mogadishu. To further investigate the possible introduction and/or spreading of HIV virus after that time in Somalia, we tested a total of 795 sera collected between July 1986 and January 1987 and stored at -20 C at the Blood Bank Center of Mogadishu. When possible, the population has been characterized by age, sex, occupation and geographical origin.

Antibodies against HIV were tested by current commercial Elisa kits. All assays have been runned in Blood Bank Center of Mogadishu. None of the tested sera (745 blood donors, 6 hemophiliacs, 32 hospitalized persons, 11 laboratory workers) resulted positive. A few sera reactive in the first screening were not confirmed in subsequent Elisa or Western Blot.

These results seem to demonstrate that HIV infection is not yet widespread among Somali population. It is possible that several factors (geographical, social and religious) may have hindered the introduction in Somalia of HIV infection from neighbouring countries.

TH-47

RETROSPECTIVE HIV SERO-EPIDEMIOLOGY IN ASMARA (ERITREA):1963.

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Surveys of HIV prevalence in Africa have focused mainly on Central Africa,where AIDS is common.

The virus is now spreading to East Africa but the source of HIV in this area remains speculative.

To helping to answer the question,we studied the possible past circulation of HIV in a population sample from Asmara(Eritrea),surveyed in 1963,by looking for specific antibodies in the serum.

Testing for HIV antibodies was carried out in the sera of 100 "healthy" subjects. In addition ,on the basis of the association between sexually transmitted diseases and HIV antibody in Central and East Africa,we tested also 31 patients with anti-treponemal antibody.

The sera were screened by a commercial indirect enzyme-immunoassay(Recombinant HTLV III EIA,Abbott).

The reactive specimens were confirmed by using a competitive EIA (HTLV III Confirmatory EIA,Abbott).

None confirmed positive serum was found.

The present data seem to suggest that HIV infection was not widespread in Asmara at least until to 1963.

TH-48

RETROSPECTIVE AND PROSPECTIVE SEROEPIDEMIOLOGIC STUDIES ON HIV-1, HIV-2 AND HTLV-I INFECTIONS IN NORTH AND CENTRAL AFRICA

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Study design: i) Establishment of human retrovirus antibody prevalence in selected high and low incidence areas in Africa: high - Uganda; patient populations from the Mulago Hospital, as well as apparently healthy subject populations. Serum samples from more than 1000 patients/subjects have been obtained between 10/86 - 6/87, which are presently under analysis. Low - Tunisia; identification of high risk groups for HIV infections, follow-up of such (5 yrs) in order to establish/prevent virus spread. Tunisia represents a country, which has still few AIDS patients. ii) Evaluation of immunovirologic profile and epidemiologic data obtained from each patient.

Three different assays(indirect immunofluorescence, Western Blot analysis and RIP-PAGE)for determination of antibody prevalence to HIV-1, HIV-2 and HTLV-III have been employed on sera obtained from beedings during 1970-75 as well as 1985-87. No evidence of antibodies to HIV-1 and HIV-2 was noted up to 1975 (Proc. Natl. Acad. Sci. 83:7935, 1986 and unpubl. observ.), while 2 of 59 patients with endemic Kaposi's sarcoma had antibodies to HTLV-I. Serologic data concerning Ugandan hospital populations and control will be detailed. While none of them had antibodies to HIV-2 alone, 18,7% showed a double-reactivity to HIV-1 and HIV-2. HTLV-1 antibody prevalence was 0.6%. In Tunisia, ongoing prospective studies on about 1700 subjects of various risk groups for HIV infection and blood donors demonstrated 1% HIV-1 seropositivity in 203 subjects of one of the highest risk groups (prostitutes). No evidence for HIV-2 and HTLV-1 infections was obtained

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ABSTRACT

Our epistemological study deals with three high risk groups : 198 female prostitutes, 719 civil prisoners and 30 persons with coagulation factor deficiencies. There is a control group formed by 690 apparently sound subjects. The total number of subjects studied is 1637. Case finding was carried out by using ELISA techniques combining the vironostika organon test and the ELAVIA test of the Pasteur Institute. The results show absence of anti-HIV antibody in the controls and the prostitutes in contrast, the treponema infection house very higher in the later group. In the 719 prisoners, 1 man and 2 Women are anti-HIV antibody carriers (i.e. 0,4%). 18 subjects with coagulation factor deficiencies were anti-HIV antibody carriers (i.e. 60%). Persons affected with coagulation factor deficiencies following the use of biological products were contaminated by the AIDS virus. These results showed that Tunisia is not a high incidence foci of AIDS.

TH-50

HIV-1 AND HBV INFECTIONS AMONG HEALTHY AFRICAN IMMIGRANTS LIVING IN ROME.

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In order to investigate the role played by African immigration in the spread of HIV-1 infection in Italy, serum samples from healthy African subjects living in Rome were collected in 1985 and from November 1986 to March 1987. Informed consent was obtained by all subjects. The sera were tested by means of ELISA and seropositive samples were confirmed by means of immunoblotting. In addition hepatitis B surface antigen prevalence was investigated. As shown in the table no subject was found to be positive for HIV-1 in 1985 whereas only 2/321 (0.6%) showed antibodies to HIV-1 in 1986-87. This low HIV-1 seroprevalence could be explained by the over-representation of Ethiopian immigrants. A high HBsAg seropositivity rate was observed either in 1985 (8%) or in 1986-87 (11%). Both HIV-1 antibody positive Africans came from central Africa (Zaire and Congo) and reported a history of more than five different sexual partners per year. The Zairean seropositive subject showed a T4+/T8+ ratio of 0.6 whereas the Congolese was found to have a T4+/T8+ ratio of 1.1. Our data indicate that African immigration has not played an important role in the spread of HIV-1 infection in Italy. Finally the Ethiopian sample which we studied appears to be sufficiently representative to rule out the possibility of a HIV-1 epidemic among Ethiopians, at least until March 1987.

COUNTRY	1985			1986-87		
	No.	HIV-1 +	HBsAg +	No.	HIV-1 +	HBsAg +
ETHIOPIA	383	0	26 (7%)	189	0	20 (11%)
WEST AFRICA	022	0	04 (18%)	062	0	09 (15%)
ZAIRE AND						
CONGO	016	0	03 (19%)	013	2 (15%)	00
OTHERS	004	0	00	057	0	06 (10%)
TOTAL	430	0	033 (8%)	321	2 (0.6%)	35 (11%)

TH-51

SEROEPIDEMIOLOGY OF HIV INFECTION IN FOREIGN STUDENTS, PREVALENTLY COMING FROM AFRICA, LIVING IN TURIN (ITALY).

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Following the epidemiologic studies which led to identify Africa as probable origin of the HIV infection, we took into consideration a group of non European students living in Turin for variable periods. This study aims to evaluate the virus circulation in this particular population and to stimulate the subjects submitted to serologic control to follow the prevention rules.

Since 1984 to June 1987, 2070 serum samples from subjects coming from Africa (941), Asia (666), Central and South America (463) were examined.

The serums were screened by an E.L.I.S.A. test and Indirect Immunofluorescence; the positive samples have been confirmed by Western blot technique.

To date, 19 positive serums have been found: 18 from Africa (prevalently coming from Central Africa) and 1 from Haiti.

Careful attention has been paid to the African subjects' anamnestic data, to found eventual risk factors: hospitalisation, malaria, venereal diseases, life habits (drug abuse, sexual habits); these risk factors have been related to the conditions of HIV seropositivity or seronegativity.

TH-52

AFRICAN AND AFRICA RELATED AIDS CASES IN BELGIUM.

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By March 1987, 230 cases of AIDS fulfilling the CDC case definition of clinical AIDS have been reported in Belgium. Of those cases, 126 (55 %) concern patients of African origin ("AO") and another 37 (16 %) are "Africa Related" ("AR", travels or job in Africa, African sexual partner; African origin excluded).

Most AO patients are Zairese, nearly all not residing in Belgium, who came to Belgium for treatment. AR patients are mainly Belgians, previously or presently living in Zaire and males.

Both groups AO and AR are compared among themselves and with the other AIDS cases reported in Belgium, regarding their sex ratios, ages, risk groups, opportunistic infections and death rates.

TH-53

AIDS CASES AND HIV INFECTIONS RELATED TO AFRICA IN THE UNITED KINGDOM
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In 1982 the Communicable Disease Surveillance Centre (CDSC) established a National reporting system of cases of AIDS (objectives and methods are described elsewhere). Of the 791 cases of AIDS reported to the CDSC up to the 31 May, 1987, 22 (2.8%) were related to Africa. Eleven of them were African residents temporarily in the UK seeking medical treatment or students, the other 11 were UK residents who had spent part of their lives in Africa. The male to female ratio was 1.75:1 compared to 41.7:1 in the 769 non African related AIDS cases. The 8 female cases represented 31% of all cases reported in the UK among females (8/26). Nineteen (13 males, mean age:37.3 years and 6 females, mean age:35.6 years) of the 22 cases were adults the remaining 3 were children (one boy of 7 years and two girls aged 1 and 2 years). Seventeen cases were known to have died (overall mortality= 77%) 3 were still alive and 2 were lost to follow-up). The transmission categories of the adult cases were: 13 (68%) heterosexual transmission, 3 (16%) homosexual/bisexual, 1 (5%) blood transfusion, in 2 cases (10%) the transmission was unknown. Among the children two were born from HIV positives parents and one had had a blood transfusion. The likely places where infection took place were Uganda, Zambia, Gambia, Tanzania and Ghana. Among the adult cases the clinical presentation was KS in 4 patients (21%), PCP in 3 (16%), KS+PCP in 1 (5%) and OI in the remaining 11 (56%) patients. Eight of these 11 cases had opportunist infections involving the CNS (cerebral toxoplasmosis, CMV retinitis, HZ encephalitis).

Since 1984 CDSC receives also reports on HIV antibody positive persons from most of the laboratories which perform the test. By the end of May 1987 4945 persons were reported, of these 114 (2.3%) were presumed to have acquired HIV infection in Africa.

The epidemiological differences between the African related cases and the other cases as well as the implication for heterosexual spread of the HIV infection in the UK will be presented.

TH-54

HIV-POSITIVITY AMONG DANISH PROFESSIONALS RETURNING FROM AFRICA

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Heterosexual transmission is an important route of human immunodeficiency virus (HIV) infection in Africa, and sexually active persons returning from Africa may be considered an imported reservoir of HIV. In 1986, 212 Danes returning from Zambia or Tanzania had a routine health check at the outpatient clinic for tropical diseases, Marselisborg Hospital. All were offered a test for HIV antibodies and 81 (38%) accepted. 7 young heterosexual males were seropositive by ELISA, confirmed by Western blotting. All 7 had had vaginal intercourse with local Africans, none had received blood or blood products, two patients had had intramuscular injections during their stay in Africa. We conclude that HIV antibody screening must be offered to people returning from regions where AIDS is endemic.

TH-55**GENETIC RELATIONSHIP OF HIV-2 ISOLATES AND THEIR RELATEDNESS TO HIV-1 AND STLV-III_{AGM}**

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The isolation of retroviruses related to HIV-1 from African green monkeys (STLV-III_{agm}) (Kanki, et al., 1987) and macaques (STLV-III_{mac}) (Daniel et al, 1985) has lead to the discovery of a second group of human retroviruses, now collectively called HIV-2 (Clavel et al., 1986; Albert et al, 1987), which are prevalent in west Africa. We obtained the complete nucleotide sequence of a human west African retrovirus HIV-2 sb16669, and compared it to a previously described different strain of HIV-2 (HIV-2rcd) (Guyader et al., 1987) as well as to STLV-III_{agm} (Franchini, et al., 1987), and HIV-1 (Ratner et al., 1985). We concluded that:

1) The HIV-2 isolates are somewhat more closely related to each other than the STLV-III_{agm}, compatible with their origin in different species.

2) HIV-2 isolates differ from each other to the same degree and contain the same hypervariable regions within the envelope genes as do different strains of HIV-1. The equivalent degree of intragroup divergence implies that HIV-1 and HIV-2 have existed in their present respective ranges in Africa for an approximately equal length of time. The fact that AIDS is widespread in regions where HIV-1 is prevalent but not in regions where HIV-2 is prevalent, as seroepidemiological data indicate, suggests a substantial difference in the morbidity rates associated with HIV-1 and HIV-2 infection. This means that a comparison of the genetic differences between these two virus groups could help elucidate the basis for the apparent high pathogenicity associated with HIV-1.

3) Comparison of HIV-1, HIV-2 and STLV-III_{agm} to the ungulate lentiviruses EAV and Visna shows that the members of the former group diverged from a common ancestor much more recently than they diverged from the latter group. HIV-2 and STLV-III_{agm} diverged more recently than did HIV-1 and HIV-2.

4) The genetic relationship of these retroviruses (HIV-1 and HIV-2) are consistent with their origin in the distant past and indicates that the recent onset of the AIDS epidemic may have socio-economic underlying causes, rather than being induced by the sudden genesis of pathogenic retroviruses.

TH-56**CONSTRUCTION OF HIV1 DELETION MUTANTS BETWEEN THE 5'LTR AND GAG GENES**

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In mouse and avian retroviruses the packaging signal has been located between the 5'LTR and the gag genes. In HIV1 the packaging signal has not been identified. We postulate that the sequence for the packaging signal is located between the primer binding site (PBS) and the gag genes. Therefore we constructed deletion mutants in this region using the biological active isolate pHXB2D and transfected this mutants into H9 cells. Here we describe several of our mutants: 1. In the mutant pPAC10 a HindIII(78)/BssHII(255) fragment was replaced with oligonucleotides. This mutant was deleted of 53 nucleotides between PBS and BssHII. 2. In the mutant pPAC20 the BssHII/ClaI(374) fragment is replaced by oligonucleotides containing a splice donor and gag sequences. 3. We further introduced into pPAC20 a viral fragment(284 to 327) in both orientations(pPAC21/pPAC22). 4. Mutant pPAC25 is a plasmid of pPAC20 with additional deletions in the 3'LTR(-138 to -48). All plasmids contain a hygromycin B gene for selection. We have constructed cell lines with the mutants and studied the RNA and protein synthesis.

TH-57 Comparison of HIV 2 and SIV IIIsm

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Simian immunodeficiency viruses (SIV) have been isolated from several monkey species including macaques (SIVmac), African green monkeys (SIVagm) and sooty mangabeys (SIVsm). Among the 2 groups of human AIDS viruses, HIV 2 originally obtained from West African AIDS patients has been shown to be antigenically related to SIVmac. We have recently studied the relatedness between the viral antigens of HIV 2 and SIVsm by RIPA and Western Blot analysis. Sera from sooty mangabey monkeys and from SIVsm inoculated rhesus monkeys demonstrated strong reactivity to all the major viral antigens of HIV 2. Human HIV 2 positive sera react also specifically with both the core and envelope antigens of SIVsm. Biological studies indicate that like HIV 2, SIVsm replicates in human CD4⁺ cells, displays a cytopathic effect on these cells and can be propagated on continuous cell lines such as CEM or U937. Further genomic comparisons of HIV 2 and SIVsm by restriction mapping will provide further information on the extent of relatedness between these human and simian viruses.

TH-58 HIV RELATED SEQUENCES IN INSECTS FROM CENTRAL AFRICA

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We have studied the presence of HIV related sequences in more than 200 insects from endemic area for AIDS in Central Africa. This analysis has been performed using squash blot, dot blot and southern blot techniques. Viral sequences have been found among insects from urban or suburban area, directly or indirectly in contact with humans. Positive insects included mosquitoes, antlions, tsé-tsé flies, cockroaches, ticks and bed-bugs. Squash blot analysis indicated that up to 30 % of mosquitoes from endemic area contained such viral sequences. Studies on mosquitoes also suggested a transovarian transmission of the viral genes since positive results were observed both with males and females. Insects with specialized feeding such as termites or crickets were constantly found negative. Flies, bees, day-flies from Paris area were also negative. The specificity of the hybridization signals has been confirmed using several probes as negative controls. Such controls included hybridization with pUC18, Kappa globulin, HTLV I, type D SPV and M-MuLV probes. Hybridization with subgenomic HIV 1 probes also indicated that most of the viral genes are present in positive insects. However, the restriction patterns observed by southern blot analysis is not similar to the one obtained with the prototype HIV 1 strain. These results suggest that insects might be contaminated by infected human material and thus could be carriers of HIV genes but not vectors as clearly evidenced by previous epidemiological studies.

TH-59

BOVINE LEUKEMIA VIRUS (BLV) AND HUMAN IMMUNODEFICIENCY VIRUS (HIV): AN ULTRASTRUCTURAL STUDY.

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BLV, a bovine retrovirus responsible for adult bovine leukosis, and HIV, the etiological agent of AIDS, seem to present some common features as described in our previous reports concerning strict relatedness between BLV and HIV. Data were obtained by indirect immunoperoxidase staining technique performed on a fetal lamb kidney (FLK) cell line persistently infected with BLV and human H9 lymphocytes infected with HIV. The same cell cultures were used for morphological studies carried out by electron microscopy and by the immunoelectron microscopy with human sera positive for BLV or collected from patients affected by immunodeficiency syndromes. Results obtained by electron microscopy confirm our previous data concerning the relatedness of these two retroviruses: BLV and HIV.

TH-60

T-CELL SPECIFIC EPITOPES ON HIV ENVELOPE GLYCOPROTEIN RECOGNIZED BY IMMUNIZED CHIMPANZEES. Kai Krohn¹, Kemp Cease², Larry Arthur³, Richard Fischer⁴, Annamari Ranki¹, Scott Putney⁵, Paolo Lusso¹, Peter Fischinger¹, Robert C. Gallo¹ and Jay Berzofsky². Lab. of Tumor Cell Biology, Metab. Branch,² and Office of the Director³, NCI, Bethesda, MD, Biongen Corp.⁴ and Repligen Corp.⁵, Cambridge, Mass.

We have studied cellular immune response towards HIV in chimpanzees immunized with native (gp120) or recombinant (PB-1) HIV envelope proteins. All animals showed T-cell proliferation and IL-2 secretion when stimulated with inactivated HIV virions, purified gp120 or PB-1. The T-cell response was group specific, being directed against several divergent HIV isolates and gp120 or PB-1 molecules. The epitopes recognized by the responding T-cells thus appeared to be conserved. These epitopes were further identified by looking for the recognition of synthetic peptides by the immunized animals. Two independent approaches were used; peptides # 4 - 82 represented overlapping, 15 to 25 aa. long sequences within gp160, while peptides T1 and T2 were predicted to be T-cell epitopes due to their amphipathic nature. A T-cell response was most consistently seen with peptides T1 and peptide 7, representing the same region of gp120. Two additional peptides, both within the PB-1 sequence, gave response in some animals. Peptide # 7, aa 426-450, contains the region of gp120 claimed to bind to CD4 molecule, a receptor for HIV on its target cells. Identification of conserved T-cell epitopes in HIV that are immunogenic also in man is important for the development of a subunit HIV vaccine.

TH-61

T-CELL RESPONSE TO HIV AND HIV-DERIVED PEPTIDES IS SEEN IN NON-INFECTED PARTNERS, OR AZT-TREATED, PATIENTS BUT NOT IN INFECTED HUMAN BEINGS. A. Ranki^{1,2}, S. Mattinen³, R. Yarchoan⁴, and K. Krohn^{1,3},
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We have studied T-cell proliferative responses towards HIV in 58 HIV-infected individuals, 12 of whom were treated with AZT, and in 18 non-infected subjects with verified sexual exposure to HIV. T-cells were stimulated with inactivated HIV virions (two isolates), purified HIV envelope glycoprotein gp120, recombinant envelope proteins R10 and PB1, synthetic peptide # 7, representing aa. 426 - 450 of gp120, and recombinant p24 protein. None of the HIV-infected persons responded to gp120 or to HIV. In contrast, 4 AZT treated cases showed a significant response to HIV or gp120, correlating to the clinical outcome. Furthermore, 4/13 sexual partners to HIV infected persons, who themselves were unequivocally negative with all known tests for HIV infection, responded. Based on *in vitro* co-culture experiments with HLA-D/DR-matched antigen presenting cells and *in situ* hybridization using HIV RNA-probes, we conclude that the antigen presenting cells are infected and functionally disturbed during early HIV infection and thus the energy towards HIV envelope glycoprotein, observed in HIV infected individuals, is the consequence of the infection *per se*. Thus deliberate immunization with HIV subunit vaccines may induce a protective cellular immune response in man.

TH-62

PERIPHERAL BLOOD T4 LYMPHOCYTE NUMBERS IN ZIMBABWEAN PATIENTS WITH HIV INFECTION

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The relationship between peripheral blood T4 lymphocyte numbers and clinical symptoms in HIV infected Zimbabwean patients was investigated.

Patients attending the central hospital in Harare were assigned to groups according to their clinical symptoms. Blood was collected and used for blood smears and HIV antibody assay. HIV antibody was assayed by the ELISA technique and an immunocytochemical method was used for detection of T4 cells (Erber, Pinching & Mason, 1984).

The results showed that the percentage of peripheral T4 lymphocytes was depressed in almost all HIV infected patients. In patients showing the most severe clinical symptoms the number of T4 lymphocytes was drastically reduced (<300/ μ l).

T4 lymphocyte numbers have been correlated with disease severity and poor prognosis in HIV infected individuals in Europe and America. These preliminary results show that a similar pattern is observed in HIV infection in Zimbabwe.

Reference: W.N. Erber, A.J. Pinching, D.Y. Mason, 1984,
The Lancet (1984) 1: 1042-1045.

TH-63

THE IMMUNOGLOBULIN PROFILE IN WHITE AND BLACK HIV-PATIENTS
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The aim of the study is to evaluate how the Immunoglobulin profile (IgA, IgM, IgG, mg/dl) of HIV-patients correlates with the clinical state and the depletion in T4 lymphocytes. Data from 115 HIV-patients (55 white Caucasians and 60 black Africans (Zaire, Rwanda, Burundi)). All are adult patients covering the range of the HIV-associated conditions, according to the classification system issued by the CDC, in May 1986.

There is a parallel increase of the IgG and IgM in patients of Groups II and III, which correlates with the decline of T4 from 500 to 300 cells/mm³. When the disease progresses from Group III to Gr IV, the IgM and IgG reach their maximum increase which corresponds to the level 150-200 T4/mm³. A further decrease of the T4 to 40-150/mm³ results in a slow decrease of the IgG, while the IgM remain unchanged at their maximum level (x 1.5). In the most severe cases Gr IV, the collapse of the T4 to the range 0-40/mm³ results in a sharp decrease of the IgG and IgM, more marked in the latter, while white and black patients have similar levels of IgM whatever the stage and T4 depletion, black patients exhibit IgG levels that exceed those found in white patients by a factor of 1.5 to 2. An unexpected IgA behaviour characterizes the far advanced stages. The decline of the T4 from 500 to 150/mm³ results in a slight increase of IgA. When the T4 drop as low as 0-40/mm³, there is contrary to expectation, a sharp increase of the IgA that has been overlooked until now. This peculiarity of the IgA suggests the existence in man of two separate populations of T4 lymphocytes: the first regulating the IgG and IgM synthesis, the second regulating the IgA synthesis. Moreover, IgA specific T4 lymphocytes seem to be more resistant to the HIV assault than the other T4 cells.

TH-64

IMMATURE AND ABNORMAL LYMPHOCYTES IN HIV-POSITIVE HEMOPHILIACS AND HIV-CARRIERS.

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In the present study we have investigated the peripheral blood lymphocytes of 37 positive for HIV-Hemophilia patients, 26 HIV-carriers and 20 healthy controls. The mononuclear cells were separated from the whole venous heparinized blood after gradient centrifugation on lymphoprep. The mature phagocytes were eliminated via carbonyl iron phagocytosis and magnetism.

We have evaluated the Fc-IgG positive cells by using latex particles coated with pure human IgG.

The following monoclonal antibodies were also used: OK-T3, OK-T4, OK-T8, OK-Ia1, OK-M1, OK-T6, OK-T9, OK-T10 as well as monoclonal β_2 -microglobulin (β_2m), Ferritin (F), A1-fetoprotein (AFP) and carcinoembryonic antigen (CEA) (from Hybritech) on the cell surface (Indirect Immunoperoxidase technique).

In our previous studies we have found that the β_2m , the F, the AFP and the CEA are also strongly positive on lymphocytes from patients with lymphocytic leukemias, lymphomas, chronic active Hepatitis-B (CAH) and Primary Hepatocellular Carcinoma (PHCC).

In the most positive for HIV-Hemophiliacs and in the HIV-carriers we have observed high Fc-IgG positive cells, low T4/T8 index, fluctuation of OK-M1 positive cells and also fluctuation of OK-T6, OK-T9, OK-T10, β_2m , F, AFP and CEA percentages of cells. There was no correlation between Fc-IgG receptor and T8-positiveness. In some cases the sum of T4 and T8 percentages was more than the T3 percentage as well as the total of T3 and Ia1 percentages was more than 100%.

All the above findings suggest that the infected by HIV individuals have much more immunological abnormalities than low lymphocyte counts, low T4 percentages, high immunoglobulin levels and fluctuation in complement components. The presence of immature T-lymphocytes (T6, T9, T10) and lymphocytes bearing carcinoembryonic antigen (AFP, CEA, β_2m and F) requires further investigation to understand the natural history of the AIDS and the correlation with various tumors.

TH-65

EVALUATION OF CD4 4B4, CD4 2H4, B1 D/Dr, CD8 D/Dr LYMPHOCYTE SUBSETS DURING THE EVOLUTION OF THE HIV INFECTION
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The human immunodeficiency virus (HIV 1) infection is characterized by a wide spectrum of immunological alterations. The most constant and typical is the depletion of T helper-inducer subset of lymphocytes (CD4). We have evaluated the absolute number and the prognostic meaning of CD4 4B4, CD4 2H4, B1 D/Dr, CD8 D/Dr, lymphocyte subset in 20 symptom-free seropositive (Elisa and V.E.) patients (pts), 48 L.A.S., 28 A.R.C., and 10 AIDS with *Pneumocystis Carinii* Pneumonia. Monoclonal antibodies were supplied by Coulter Immunology and Becton Dickison and were used with the coulter lysing procedure. Dual color flow cytometric analysis were performed with EPICS C. Statistical analyses was carried out by applying non parametric wilcoxon sum of rank test for coupled data. In the seropositive symptomless pts. it was demonstrated a decrease only of CD4 4B4; the reduction was more remarkable in further stages as LAS, ARC, AIDS. The CD4 2H4 lymphocyte subset were decreased in ARC and AIDS pts. The CD4 4B4/CD4 2H4 ratio showed a progressive reduction from simple seropositivity to full blown Aids. The B1 D/Dr lymphocyte subset displayed a significant decrease from LAS to the AIDS group while CD8 D/Dr were progressively increased from seropositivity to ARC. Our data suggest that the early loss of CD4 4B4 subset of lymphocytes is the most consistent change in lymphocyte subpopulation and is related to the progression of the infection through three stages from LAS to AIDS. On the basis of our data it is possible to speculate that CD4 4B4 lymphocyte subset is among the first preferential target cells of HIV-1, and that its reduction is one of the premonitory sign of immunological deterioration. The well known polyclonal T independent activation of B cells can be caused by free soluble proteins after cell lysis by HIV-1, viral coinfections such as EBV, or alteration of balance between the T helper of B lymphocytes and T inducer of T suppressor which appear to reach its peak at the stage of ARC. The early increase of the CD8 D/Dr lymphocyte is suggestive of a specific proliferative response which could indicate that this subset might be directed against the HIV-1 infected CD4 cells.

TH-66

A MIMICRY MODEL FOR THE IMMUNE IMPAIRMENT IN INFECTIONS BY LYMPHOTROPIC VIRUSES
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The direct viral damage to immunocompetent cells is only one of the multifactorial mechanisms by which immunity is suppressed during infections by lymphotropic viruses. Recently, it has been suggested that alternative theories must be envisaged to explain the impairment in lymphocyte number and functions that characterizes some of these infections, e.g. AIDS (1). Here we propose a general model that springs from implications on virus-cell mutual recognition during the adsorption step of the infection: a "mimicry model". In the adsorption step a virus interacts with a susceptible host cell by a mechanism requiring a specific mutual recognition between the infectious agent and the host. The cellular component may be a membrane receptor for some particular cell function (2). A mimicry between an infectious agent and a specific natural ligand molecule causes advantage to the virus and several disadvantages to the host. If the envelope binding domain presents a remarkable resemblance with the ligand, the mimicking of self antigen might be such to prevent any specific immune response. In the case of a weak neutralizing antibody response, the mimicry between the infectious agent and the natural ligand is likely to trigger an activation of the idiotype network resulting in an idiotypic suppression of the neutralizing antibody response which fails to protect the host and, moreover, causes a receptorial pathology through competition/autoaggression mechanisms. Indeed, antibodies to the interacting site of the virus will resemble in structure the membrane element with which the viral binding domain interacts, and might cross-react with the natural ligand (3). Moreover, taking into account the idiotypic network, antiparatope antibodies to antiviral neutralizing antibodies are antireceptor antibodies which may further account for an immune pathogenesis of lymphoid cells impairment in diseases by lymphotropic viruses.

- 1) Klatzmann, D., & Montagnier, L., *Nature*, 319, 10, 1986.
- 2) Plotz, P.H., *Lancet*, i, 824, 1983.
- 3) Giunta, S., & Groppa, G., *Cancer Letter*, in the press.

TH-67**THE SPECTRUM OF AIDS-LIKE DISEASE IN SENEGAL**

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We have identified 11 cases of AIDS or AIDS-like disease in Senegal over the past two years who were seropositive to an HIV-type of retrovirus. In addition, 31 cases of unexplained weight loss, chronic diarrhea or prolonged fevers were referred for serologic testing and found to be negative for exposure to HIV-1 or HIV-2 type retroviruses.

The 8 cases who were seropositive to HIV-1 and seronegative to the HIV-2 type retroviruses by Western blotting and radioimmunoprecipitation assays all had lived or traveled extensively in Central Africa or Europe. All of these cases had a rapid progression of several of the major signs and disease states defining AIDS by the modified WHO criteria.

The other 3 seropositive cases, originally from neighboring countries, were seropositive to HIV-2 type viruses by the same techniques and displayed a wide spectrum of clinical outcomes. The most severe outcome was seen in a patient with unexplained fevers, weight loss and lymphadenopathy for six months, who also had a generalized pruritic dermatitis. This patient died suddenly of a rapidly progressing pneumonitis. The second case was a patient with five years of episodic diarrhea and weight loss which was unexplained after extensive study. This patient survived pulmonary tuberculosis and two episodes of Salmonella septicemia. The last case is one of chronic weight loss in a patient with lymphadenopathic and pulmonary tuberculosis. This patient has responded to therapy, rapidly regaining weight and presently off all medication.

We feel the detailed clinical and immunological analysis of these HIV-2 seropositive individuals gives us evidence that the disease manifestations which may result from HIV-2 infection may have a rapid progression, as we have seen with HIV-1 infection, or may have a prolonged, episodic clinical course and atypical clinical and immunological characteristics.

Furthermore, the 31 cases of seronegative AIDS-like diseases emphasize the difficulty in attributing "cause and effect" to the evaluation of AIDS in Africa.

TH-68**ORAL MANIFESTATIONS OF HIV-INFECTION IN TANZANIA**

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This study describes clinical types and prevalence of oral lesions among AIDS patients in Tanzania. Of 42 suspected AIDS patients at Muhimbili Medical Centre and 82 control patients (dental, STD, mothers, children, medical patients), WHO field criteria for AIDS were fulfilled for 40 (95%) and 7 (9%), respectively. These 47 patients were considered "AIDS patients" and the remaining 77 "controls". Male/female ratio was 1.6/1.0 and 1.0/1.0 in the two groups. HIV Ab and/or Ag occurred in 86% of AIDS and 18% of controls. Types and prevalences of oral lesions among AIDS vs. controls comprised atrophic candidiasis (24 vs. 3%), pseudomembranous candidiasis (28 vs. 4%), angular cheilitis (11 vs. 0%), any type of oral candidiasis (51 vs. 4%), hairy leukoplakia (43 vs. 0%), Kaposi's sarcoma (4 vs. 0%), herpetic stomatitis (2 vs. 0%), and tuberculous ulcers (2 vs. 0%). Total prevalence of oral lesions considered HIV-associated was 64% and 4% in the two groups. The presence of oral candidiasis, hairy leukoplakia or both was significantly associated with presence of AIDS criteria and with serological signs of HIV infection. Oral examination is easy to perform and may be of clinical importance for HIV case-detection, especially in areas with limited diagnostic facilities.

Dr. A. M. T. Lwegaba, Aids Control Programme Uganda.

Objectives:

In Uganda, as elsewhere AIDS is a disease that has caused a lot of fear since it was first seen in 1982, (1), (2).

The rash being visible even to the untrained eye of the villagers has caused great concern, (3). Among the public, anything like it is an omen and suspicious of AIDS. Yet, according to the Clinical Criteria, (4), the rash is a minor sign.

Methods and Results:

By; (a) careful observation, some characteristics of the lesions are to be described, (5); (b) and by a retrospective survey of the villages and hospital data of suspected AIDS patients; the prevalence and hence the significance of these lesions will be elaborated, (6).

Conclusions:

It is a sign that every health worker should note carefully, either to lay off anxiety or to assist diagnosis.

- (1) Lwegaba - "An unusual wasting disease complex nicknamed 'SLIM'. English.
- (2) Serwaddwa et al - Slim Disease, A new disease in Uganda and its association with HTLV-III Lancet 1985, 849-52.
- (3) Lwe - Skin Manifestations in "Slim", Medicine Digest, Feb'87, Letter.
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- (5) Warner L C et al, Cutaneous manifestations of AIDS, Int J Dermatology 1986 Jul/Aug;25(6):337-50

THE INVOLVEMENT OF THE CNS IN AIDS PATIENTS

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Within the clinical picture determined by HIV infection, diseases of the CNS occur in many patients with AIDS. The evaluation for specific causes of localized or diffuse abnormalities usually indicate central nervous system disease caused by opportunistic infectious agents, including fungal, bacterial, viral and parasitic organisms or neoplastic processes.

The study population consisted of 17 patients with AIDS, in 4 of whom we reported: one case of transverse myelopathy, one case of progressive multifocal leukoencephalopathy, two cases of cortical-subcortical atrophy.

Since opportunistic infectious agents were identified in none of these patients, we should consider HIV infection of the CNS in the differential diagnosis of these findings.

In our present study, the prevalence of CNS involvement in AIDS patients was 25 % and various clinical manifestations in AIDS-related neurone atrophy were evident.

TH-71**PROGRESSION OF HUMAN IMMUNO DEFICIENCY VIRUS DISEASE: FOLLOWUP STUDY OF HERPES ZOSTER, PERSISTENT GENERALISED LYMPHADENOPATHY AND OTHER FEATURES OF AIDS-RELATED COMPLEX.**

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 From the University Teaching Hospital, Lusaka, Zambia.

SUMMARY

The number of patients with herpes zoster attending dermato-venerology division at the University Teaching Hospital in Lusaka, Zambia increased 20 fold in 1985. Among the 172 consecutive patients screened, 160 (93.0%) were positive for Human Immuno Deficiency Virus (HIV) antibodies by ELISA and western blot analysis. All positive herpes zoster patients had multi-dermatomal, necrotic lesions; an uncommon presentation in late 1970s. Also, 190 consecutive patients presenting with persistent generalised lymphadenopathy (PGL) were tested and 137 (72.1%) were found positive. Another group of patients included was those presenting with other features of AIDS such as fever, diarrhoea, weight loss, cough etc. Two hundred and three patients with such presenting features were tested and 110 (54.2%) were positive. One hundred fifteen patients with PGL, 112 with herpes zoster and 85 of those with other presenting complaints have been followed regularly for the past 6-22 months. Sixteen (13.9%) with PGL, 21 (18.8%) with HZ and 9 (10.5%) with other presenting features progressed to full blown AIDS. The number of patients in all the groups who progressed to AIDS was not significantly different. Also, there was no significant difference in age distribution, marital status, occupation, number of life time sexual partners, or past history of sexually transmissible diseases. In view of the above, herpes zoster is one of the major clinical features like PGL, weight loss, or diarrhoea suggestive of HIV disease in Zambia.

TH-72**PERSISTENT DIARRHEA IN AFRICAN PATIENTS WITH HIV INFECTION.**

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Diarrhea is a common manifestation in many African AIDS patients. Of 245 HIV (+) AIDS patients hospitalized at Mama Yemo Hospital, 152 (62 %) had experienced at least one episode of diarrhea and 98 (40 %) had persistent diarrhea (PD). PD was defined as at least 2 or more stools per day of unusual loose consistency for at least 30 days during the last 2 months. To determine the positive predictive value (PPV) of PD for HIV infection, consecutive patients presenting with PD were tested for the presence of HIV antibodies; 107 (84 %) of 128 were HIV (+) (PPV = 84 %). 106 HIV (+) patients with PD were enrolled in a study to determine the etiology of this diarrhea. 23 (22 %) of 106 patients had cryptosporidiosis (the parasite most frequently observed). Bacterial pathogens were found in 5 (7 %) of 76 patients in which stool cultures were performed. In 53 % of the patients no enteric pathogens were found. Cryptosporidiosis and I. belli excepted, fewer enteric parasites (e.g. Trichuris, Ascaris) were found in HIV (+) patients with PD than in healthy HIV (-) controls, but HIV (+) patients with PD had more often than controls taken antiparasitic treatment before stool examinations were performed (92 vs 14 %). Upper intestinal endoscopic findings in 39 HIV (+) patients with PD were normal in 17 (44 %). Observed abnormalities were gastric erythema or erosions in 12 (31 %), candidal oesophagitis in 10 (26 %), gastric ulceration in 2 (5 %), Rapoport's sarcoma lesions in 1 (3 %). Rectosigmoidoscopy in 31 HIV (+) patients with PD was normal in 21 (68 %). Observed abnormalities were minor erythema or erosion in 14 (45 %), ulcerations in 2 (6 %). Histologic examinations of duodenal (37) and rectosigmoidal mucosal biopsies (27) of HIV (+) patients with PD were compared with duodenal (39) and rectal (8) mucosal biopsies obtained in HIV (-) patients without diarrhea who underwent gastrointestinal endoscopy for other reasons. Specific mucosal abnormalities were not observed among the HIV (+) patients with PD. In a minority of the HIV (+) patients with PD pathogens were found, in the biopsies (in the duodenal biopsies) including cryptosporidiosis in 5 (14 %), I. belli in 2 (5 %), strongyloides in 1 (3 %) and cryptococcus in 1 (3 %). In adult patients in Africa PD of unclear etiology is strongly associated with HIV infection.

TH-73

PARASITOLOGICAL STOOL EXAMEN IN PATIENTS PATIENTS WITH AIDS. BRAZZAVILLE (CONGO)

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Diarrhea is one of the most common sign in african patients with AIDS.

118 in-patients (56% males, 44% females) of the General Hospital of Brazzaville with AIDS (according to WHO clinical score for Africa and HIV antibodies positive in ELISA) underwent a stool exam for ova and worms. Direct examination was available for all patients, modified Ziehl-Nielsen' stain for 79, Kato' stain for 91 and Bearmann's for 39.

Parasites identified were :

- . *Trichiuris trichiura* (31,3%)
- . *Isospora belli* (9,3%)
- . *Entamoeba coli*, *Trichomonas intestinalis*, *Necator americanus* (6,8%)
- . *Ascaris lumbricoides* (5,9%)
- . *Cryptosporidium sp* (4%)
- . *Giardia intestinalis* and *Strongyloides stercoralis* (3,4%).

This parasitological pattern is significantly different from the one observed in diarrhea patients without HIV infection.

TH-74

HIV infection and tuberculosis in Bujumbura, Burundi.

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Aids and tuberculosis(TB) are both endemic in Bujumbura,Burundi. A TB and HIV-infection survey was performed in 38 families in Bujumbura at the end of 1986 to measure the risk of TB infection in families with an HIV-sero+ TB case.Comparison of 24 families with an adult HIV-sero+ TB case was made with 14 families with an adult HIV-sero- TB case (questionnaire, clinical examination, tuberculine test, chest Xray, sputum analysis with culture and HIV serology). All the TB cases were consecutive patients at the CATB, under at least 10 months ambulatory standard TB treatment. Only selection was made in age and sex, not in residence in bujumbura.

We first had observed an 11% failure rate to standard treatment of TB after 12 months of therapy (n=173) at the CATB of Bujumbura in 1985-1986.All resistant cases (n=19) were HIV-sero+. Analysis of 328 consecutive new TB cases at the CATB during a 3 month period in 1986 revealed an 54.5% HIV-sero+ rate(95%CI: ±5.4%) by duplicate Elisa Organon Teknika testing.

Results in this study show a risk difference of TB infection in families with an HIV-sero+ TB case of 21% (95%CI: ±16%;X²=3,14;0.05<p<0.1; 6 new clinical TB cases in 5 HIV-sero+ families compared to none in the other group). This phenomenon could partially explain the increase of TB incidence in Bujumbura observed during the last 3 years. 5 HIV-sero+ TB patients in our study were resistant to TB therapy. Association was seen between HIV-sero+, zoster infection and TB (6 cases in the HIV-sero+ group, compared to none in the other;X²=5,04;P<0.02). Intradermo-reaction on tuberculine testing was markedly different in the HIV sero+ TB patients compared to the other cases: 10/20 in the HIV-sero+ TB group were anergic, compared to 1/14 in the other group (X²=6.64;p<0,01). Associations were also observed between HIV-sero+ scarification practice(13/24 in the HIV+ group, 3/14 in the other;X²= 3,9;p<0.05) and HIV-sero+ and having had recently(last 3 months) an STD (14/24 compared to 4/14;X²=2,9;p<0.1). These results suggest a rapid spread of TB in urban areas where HIV-infection and TB are highly endemic, due to a bad response to classical TB treatment in HIV-sero+ patients.

TH-75

TUBERCULOSIS OPPORTUNISTIC CONDITIONS AND HIV INFECTION IN BOTSWANA
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AIDS is still a new condition in Botswana and unlike tuberculosis, it is not yet the chief cause of in-patient morbidity and mortality.

From December 1985 to May 1987, twelve cases (1 per 100,000 population) have been diagnosed. In addition eleven carriers have been identified in a survey among malignant and infectious diseases in-patients in Botswana. Twenty-seven suspects, blood donors and sexual contacts have been found with HIV antibody.

Among the cases, lymph node affection and cachexia were the commonest conditions (42%) while herpes infection of the face and trunk was found in 25%. Pyrexia and diarrhoea were observed in 17-25% of the cases. Kaposi sarcoma was diagnosed in one (8%) of the cases, while 17% were on treatment for pulmonary tuberculosis.

Tuberculosis was however the major condition among the HIV infected in-patients. Sixty per cent of HIV carriers had tuberculosis which was only 51% of all the conditions surveyed.

All the HIV carriers with tuberculosis were females aged between 21 and 29 years with a marriage rate of 33%. Adult tuberculosis is a predominantly male condition (2:1) while the early indications in Botswana are that AIDS could be a female domain.

It is suggested that there is a relative higher resistance among males to heterosexual AIDS infection. Further work is indicated to study new tuberculosis patients and HIV infection to explain these findings.

Or could it be the riddle of "the chicken and the egg"?

TH-76

LACK OF ASSOCIATION OF TUBERCULOSIS WITH HIV-2 INFECTION
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Numerous studies conducted in Central Africa have demonstrated a strong association between tuberculosis and HIV-1 seropositivity (40-60%). It is thought that endemic tuberculosis and its immunosuppressive effects may predispose individuals to infection with the AIDS retrovirus. In addition, the immunosuppressive effects of HIV-1 may similarly predispose to infection with Mycobacterium tuberculosis. To further investigate the pathogenic potential of HIV-2 infection we studied 509 tuberculosis cases in West Africa to determine if HIV-2 infection was closely associated with tuberculosis as it is with HIV-1.

Serum samples collected between 1985-1987 were obtained from tuberculosis cases, 155 from Senegal, 40 from Ivory Coast, 150 from Guinea Bissau, 131 from Guinea, and 33 from Mauritania. All samples were analyzed for antibodies to HIV-2/HTLV-4 by radioimmunoprecipitation SDS/PAGE and immunoblot analysis. In Senegalese tuberculosis cases the HIV-2 seroprevalence was 1.3%; in Ivory Coast, 5%; in Guinea Bissau, 12%; Guinea, 0% and Mauritania, 0%. In each country the seroprevalence to HIV-2/HTLV-4 was not significantly different from the seroprevalence in healthy control adult populations in the same geographic areas. In addition, the seroprevalence for HIV-2 in healthy sexually active risk groups was significantly higher than the seroprevalence in tuberculosis cases.

These results indicate that HIV-2 infection is not significantly associated with tuberculosis in the 5 West African countries studied. This demonstrates a sharp distinction from the pathobiology of HIV-1 in people further indicating the need for further studies to determine the clinical significance of HIV-2 infection in people.

TH-77**RELATIONSHIP BETWEEN P.falciPARUM MALARIA AND HIV SEROPOSITIVITY AT NDOLA, ZAMBIA.**

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One hundred and seventy-two patients presented with symptoms suggestive of malaria in January 1987, at the height of the transmission season. Patients were screened for (i) anti-HIV using the Wellcozyme test, (ii) malaria parasitaemia, and (iii) specific antibodies against P.falciPARUM using immunofluorescence (IFA) test, significant titres being defined as 1:80 or greater. Two patients with P.malariae have been excluded from analysis.

Sixty-seven (39%) of the patients had P.falciPARUM and 28 (16%) were anti-HIV positive. Of the 103 patients without malaria, 20 (19%) were anti-HIV positive compared to only 6 (12%) of those with malaria ($\chi^2 = 1.15$, $p = 0.28$).

Sixty-three (94%) of the patients with parasitaemia and 74 (72%) of those without parasitaemia had significant IFA titre. No significant relationships were found in the parasite positive or parasite negative groups between antimalarial IFA and anti-HIV.

These data do not support the hypothesis that HIV infection increases the risk of clinical P.falciPARUM malaria.

TH-78**HIV INFECTION AND LEPROSY: AN HYPOTETICAL MUTUAL INTERFERENCE**

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The high HIV seropositivity (60%) found out in a small random sample of multibacillary leprosy patients in West Africa urged us to carry out a large scale survey to confirm those data and to investigate the possible relationship between B. Hansen (B.H.) infection and HIV infection.

500 lepromatous patients from West Africa have been tested in ELAVIA 1 and 2 (Pasteur diagnostic) at the Marchoux Institute (Bamako - Mali). The positive sera have received a Western Blot confirmation at Brescia (Italy).

The high level of H.I.V. infection in heavily infected multibacillary leprosy patients (B.B., B.L., L.L.) is discussed, with special concern to possible facilitating role of H.I.V. towards B.H. virulence and host resistance. A pathogenetic pattern of H.I.V./mycobacteria interference (J.H., B.K., atypical) is proposed in the light of actual knowledges.

TH-79**ISOLATION AND CHARACTERISATION OF HIV I FROM UGANDA**

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The objective of this work was to compare genetic and antigenic differences between different strains of HIV I isolated from AIDS, SLIM or ARC patients in Uganda. About 120 strains of virus have been isolated by co-cultivation of patients' peripheral lymphocytes with PHA-stimulated cord-blood lymphocytes. With a few exceptions the autologous sera were positive for HIV I antibodies by ELISA or Western blot assays. Several isolates were transferred to the U937 monocyte cell line and virus particles purified from the supernatant fluids. The polypeptide profiles of three Ugandan viruses were very similar to those of other HIV I strains from Europe, the USA and Zambia. Restriction enzyme maps of two of the Ugandan proviruses, cloned into bacteriophage lambda, were different from each other and from published data for American and African viruses. Hybridization and nucleotide sequence data indicate that the gag and pol regions are conserved between the strains but the env and 3' orf regions are much more variable.

TH-80**HTLV III-TB ASSOCIATION IN NORTHERN UGANDA (GULU DISTRICT)**

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The present study has been carried out in patients admitted to St. Mary's Hospital -Lacor, Gulu District in Northern Uganda, in 1985-1987 within Italy-Uganda Health Cooperation Programme.

In 1985 in St. Mary's Hospital Lacor (Gulu) a small group of patients were tested by ELISA method (Wellcozyme) for anti-HTLV III antibodies and 21 of them were positive. In 1986, according to availability of the test, an higher number of patients who had signs and symptoms of immunodepression were tested and 55 out of them were positive. In the first six months of 1987 all patients admitted to hospital for complaints suggestive of AIDS had the ELISA test and 56 HTLV III positive patients were collected. The total number of HTLV III positive patients in the whole period is 132. Among them radiological, bacterioscopical and, if it was the case, histological investigations were carried out for common infections and in particular for TB. Nevertheless, since the beginning of 1987 all patients affected by TB had screening serological ELISA test for antibodies against HTLV III. The Diagnosis of TB was based on a) finding of Mycobacterium on sputum-smear; b) histological evidence of TB lymphadenitis or Mycobacteria in lymph node or pulmonary tissues (pulmonary specimens taken during post-mortem examination); c) radiological features consistent with TB associated to successful therapeutical trial. In 1985 active TB was found in about 14% of the seropositive patients; the 1986 figure was almost double (27%) with apparently confirmed trend in the first six months of 1987.

Moreover an even higher figure is the number of HTLV III positive patients among our TB patients: about 45% of 31 tested adult TB patients were positive by ELISA method. These figures are much higher than those reported in a survey among TB patients in Kampala (South Uganda): around 30% of 150 TB patients were HTLV III positive.

Data were elaborated which concerned: TB course, follow up and drug-related toxicities in immunocompromised and immunocompetent hosts according to the given treatment (short and long course).

TH-81**RADIOLOGICAL FEATURES OF PULMONARY INFECTIONS IN AIDS-PATIENTS IN GULU DISTRICT (UGANDA)**A. Petti^o, U. Recine^o, S. Orach^{oo}, M. Lukwiya^{oo},^o Direction General Development Cooperation, Health Section, Ministry of Foreign Affairs -Italy.^{oo}St. Mary's Hospital Lacor-Gulu

The present study has been retrospectively carried out in AIDS-defined patients admitted in St. Mary's Hospital Lacor, Gulu, Northern Uganda, from January, 1985 to April 1987.

58 patients were included in the study because of fitting in with minimal criteria proposed by WHO for clinical definition of AIDS in Africa and they had not serological investigation.

112 patients were included for both clinical fitting and positive ELISA test for antibodies anti HTLV III.

8 more patients were included for HTLV III positive ELISA test, although they were not fitting in with clinical criteria for AIDS diagnosis.

The total patients number was 178. The clinical findings are briefly reported.

121 out of 178 patients had chest radiographs and 62 had evidence of pleuro-pulmonary pathologies (51,2).

All the positive radiographs were reviewed and divided in five groups according to the radiological patterns.

Laboratory investigations were limited by restrictive diagnostic facilities, nevertheless we could make diagnosis of pulmonary TB in 15 patients on bacterioscopic, histological or radiological basis associated with successful therapeutic trial.

2 cases of pulmonary Kaposi's Sarcoma and 1 cases of Cryptococcal pneumonia were histologically proved.

In all the other cases only the radiographic features could indicate the possible bacterial, micotic or viral etiology.

In summary radiological investigation has been shown very useful in diagnostic workup for pulmonary pathology when no other etiological investigations can be performed, especially in rural hospital in developing countries

TH-82**UN CAS DE SIDA ASSOCIÉ À UNE THROMBOPENIE CHEZ UNE JEUNE FEMME DE 22 ANS.**

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Les auteurs rapportent ici un cas de SIDA diagnostiqué au décours d'une thrombopénie chez une femme de 22 ans hospitalisée le 2/11/86 au Centre Hospitalier de Libreville. Un premier bilan biologique faisait ressortir une anémie à 2,8g d'Hb et 1800 plaquettes/mm³. La consultation gynécologique met en plus en évidence une hémopéritoine nécessitant une intervention chirurgicale, laquelle hémopéritoine s'est reconstituée trois mois après, faisant recourir à nouveau à une laparotomie. Une hémorragie par incoagulabilité sanguine entraînera une perfusion de 34 flacons de sang total ramenant le taux des plaquettes à 23600/mm³.

L'état de santé de la malade ne s'améliore pas pour autant: on notera par la suite un abcès du foie à *Pseudomonas aeruginosa* et une détérioration progressive de l'état général avec perte de poids de 15 Kg environ, diarrhée et méningite. La recherche de BK est positive ainsi que celle du virus HTLV III, par la méthode ELISA confirmée au WB, nous notons également un T4/T8 à 0,6. La malade meurt le 8/5/87 après huit mois d'hospitalisation. Le virus HTLV III recherché chez certains donneurs n'a pas été mis en évidence, ni chez l'un des contacts sexuels. Les auteurs pensent que cette thrombopénie devait être associée au syndrome d'immunodéficience Acquisée à l'entrée du malade à l'hôpital et qu'elle constitue comme l'on montre d'autres auteurs notamment chez les homosexuels, un des symptômes de la maladie.

TH-83

AN IMMUNOHISTOCHEMICAL STUDY OF KAPOSI'S SARCOMA SPINDLE CELLS IN CULTURE

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Cutaneous Kaposi's sarcoma nodules from Tanzanian patients were minced into small fragments, trypsinized and plated into culture medium RPM 1640 to which penicillin and streptomycin were added. Outgrowths of spindle shaped cells were noted after 7-10 days. Immunofluorescence of the cells showed typical vimentin filaments and tiny pericellular fibronectin fibers. They did not stain for other intermediate filaments or laminin. Staining with endothelial markers FVIIIIRAg, UEA-I lectin, PAL-E and EN 2 antibodies were negative. Immunoelectron microscopic visualization of FVIIIIRAg was negative. These results do not support the concept of endothelial cell origin of the spindle cell in Kaposi's sarcoma.

TH-84

INCIDENCE OF HIV INFECTIONS IN MOROCCO

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In view of the importance of the widespread HIV infections in the world, a study for the prevalence of this infection has been undertaken in Morocco since 1984. We determined different study groups that were representative of Moroccan population: blood donors; potentially more exposed persons (or at risk for HIV infections) that include hospital personnel, prisoners, homosexual men, prostitutes and polytransfused patients; pregnant women; patients with different affections. Sera were tested by ELISA; positive results were confirmed by Western blot.

As regards HIV1, we found that in 3577 blood donors, one was seropositive. In 1069 samples from Ibn Rochd Hospital (Casablanca) which includes every personnel category, not any was positive. Also were seropositive: 2/1312 prisoners, 2/52 homosexual men, 1/27 prostitutes, 1/474 polytransfused. Otherwise in the 778 pregnant women, not any had antibodies to HIV1. In the 22 traditional Kaposi Sarcoma cases, not any was seropositive. Finally, in the 1150 samples with concern different affections, and include 261 sexually transmitted diseases, 100 different infections, 47 chronic renal failure, not any was seropositive.

We also determined the presence of antibodies to HIV2. Thus, we tested 239 sera of which 42 prisoners, 82 sexually transmitted diseases, 115 blood donors from Casablanca; no positive case was detected.

These results indicate the low incidence of HIV infections in Morocco; the only seropositive subjects that we found were infected abroad.

TH-85**THE DIAGNOSIS OF CRYPTOSPORIDIOSIS AS A CONTRIBUTION TO THE IDENTIFICATION OF AIDS CASES IN MALAWI.**

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The number of cases of AIDS in the African continent has increased strikingly in the past 18 months. Eastern and Southern Africa are the most affected by the epidemic. Moreover, the risk factors for contracting the infection are different from those seen in the USA and Western Europe, most transmission in Africa being attributable to heterosexual contacts. Recently a survey was carried out in Malawi in children with diarrhoea, using two simple staining methods (Safranin Methylene Blue and Auramine Phenol). Nine of 208 (4.3%) were positive for cryptosporidium. One of these children was also being treated for tuberculosis, which raised the possibility of HIV infection. Five adult patients with diarrhoea, suspected of having AIDS, were studied and one was positive for Cryptosporidium. The diagnosis was easily made on direct stained duplicate smears, using the two staining techniques. Cryptosporidiosis is a fairly common infection in humans in Malawi; since person to person transmission is the most important way of spreading the disease, some of the suspected AIDS patients with diarrhoea may harbour Cryptosporidium.

Therefore the availability of a simple and quick technique for the detection of Cryptosporidium may help identify AIDS patients.

TH-86**REVIEW OF 52 CASES OF AIDS IN CHILDREN 2-12 YEARS OLD AT MAMA YEMO HOSPITAL, KINSHASA, ZAIRE.**

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Fifty-two children (28 boys, 24 girls), 2-12 years old (mean age, 6.4 years) were admitted to Mama Yemo Hospital during 1985-86 with AIDS. The clinical diagnosis of AIDS was confirmed by HIV ELISA in each case. The clinical presentations were: profound weight loss in all children (100%), [43 cases (86%) weighing less than the 3rd percentile weight for age]; 50 (95%) with chronic fever; 34 (65%) with pneumonia; 31 (60%) with hepatomegaly; 24 (46%) with chronic diarrhea (longer than a month); 15 (29%) with generalised lymphadenopathy; 13 (25%) with splenomegaly; 13 (25%) with neurological complications including 7 convulsions and one each with spasm, drowsiness, agitation, amnesia, confusion and hemiplegia. Opportunistic infections were observed in 27 (52%) patients: oral moniliasis in 12 (23%); cutaneous mycosis in 6 (12%); herpes simplex in 6 (12%); multiple mycosis in 3 (6%); cryptococcal meningitis and herpes Zoster each in one patient (2%). Kaposi sarcoma was observed in 3 cases (6%). Associated diseases were: 7 (14%) with Tuberculosis, comprising 2 miliary and one tuberculous meningitis; 6 (12%) with purulent otitis; 3 (6%) with septicemia (1 E. coli and 2 Salmonella), 3 (6%) with skin abscess; 2 (4%) with pyoderma; 2 (4%) with urinary tract infection (E. coli) and one (2%) with parotiditis. Laboratory tests revealed 40 (76%) had a level of hemoglobine less than 10 grams%. Intestinal parasites were observed in 27 (68%) of 40 cases examined and included Trichiuris in 15, ascaris in 7, giardia in 5 and strongyloides in 4 patients. Tuberculin skin tests were carried out in 29 cases and were positive in 6 (20%). Chest X-rays were available in 44 cases and revealed 15 (34%) with interstitial pneumonia, 7 (16%) with bronchopneumonia, 3 (7%) with bulous pneumonia and 2 (5%) with pleural effusion. Hospital course was associated with 12 (23%) mortality. We conclude that profound weightloss, prolonged fever or diarrhea beyond one month duration and pneumonia are important features of AIDS in children in Kinshasa.

TH-87**SERUM NEOPTERIN AS PROGNOSTIC MARKER IN PATIENTS WITH KAPOSI'S SARCOMA FROM CENTRAL AFRICA**

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Some immunologic parameters have been reported to be useful in predicting prognosis of patients with Kaposi's Sarcoma (KS) associated with HIV-infection: the absence of endogenous serum alpha-interferon activity has been associated with a survival advantage (Vadhan-Raj S: Cancer Res. 46, 417, 1986). Neopterin (Npt), a pyrazino-pyrimidine compound derived from GTP, has been demonstrated to be a sensitive index of T-lymphocytes-macrophages activation interferon -related and has been proposed as a useful prognostic marker in HIV-infection (Perna M.: Lancet i, 1048, 1995). To evaluate Npt as marker in KS patients we have selected 83 patients' sera from Central Africa (Uganda), compared to 20 Italian normal controls matched by sex and age (group 6). Group 1 (n°20) were patients affected by KS from 1971 to 1978 HIV-seronegative. Group 2 (n°14) were patients affected by KS during 1987 HIV-seronegative. Group 3 (n°14) were patients affected by KS during 1987 HIV-seropositive. Group 4 (n°15) were patients non-KS HIV-seropositive from Uganda. Group 5 (n°20) were patients non-KS HIV-seronegative from Uganda. The normal controls (groups 5 vs 6) didn't show any significant difference

(1.2 ± 0.3 ng/ml versus 1.6 ± 0.6 ng/ml respectively). Significantly raised Npt values were observed in the other groups:

group 1 : 11.5 ± 7.0 ng/ml ($p < 0.001$); group 2 : 5.8 ± 6.3 ng/ml ($P < 0.01$); group 3 : 5.7 ± 6.3 ng/ml ($p < 0.01$); group 4 : 6.3 ± 6.1 ng/ml ($p < 0.01$).

We did not observe any significant difference between Npt values of HIV-seropositive and HIV-seronegative KS (groups 2 vs 3), whereas a significant difference appeared between Progressive KS (12.2 ± 6.5 ng/ml) and Regressive KS (1.3 ± 0.2 ng/ml; $p < 0.001$). Our results show that Npt levels are more related to clinical stage than to HIV-infection in KS patients and may be an important prognostic factor for the progression of the disease.

TH-88**NEOPTERIN EXCRETION AND IMMUNOLOGICAL FEATURES OF KAPOSI'S SARCOMA PATIENTS.**

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We studied Neopterin (Npt) excretion levels and immunological features of 20 patients affected by Kaposi's Sarcoma (KS), compared to 30 normal controls. Eighteen patients had the classic form of Kaposi's Sarcoma (CKS), while 2 patients were HIV-seropositive and affected by the epidemic form (AIDS/KS).

In CKS patients, a trend of an increase of Npt levels with more advanced stages appeared from our data whereas a significant reduction in CD3+ and CD4+ lymphocytes subsets was observed already at early stages ($p < 0.01$). CD8+ cells did not show significant variations. A significant increase in serum IgA immunoglobulins ($p < 0.02$) was also observed.

Noteworthy, one of the two HIV-seropositive patients was a haemophiliac followed-up since 1983. Npt levels, already elevated at first testing, increased progressively with the final development of AIDS/KS and opportunistic infections in 1986. Moreover, comparative analysis of the two patients affected by AIDS/KS showed a profound defect in T-cell immunity as well as Npt levels demonstrated to be of prognostic value.

These findings may support the concept of Kaposi's Sarcoma as an "opportunistic neoplasia".

TH-89**ASSESSMENT OF A PROVISIONAL W.H.O. CLINICAL CASE-DEFINITION OF HIV RELATED ILLNESS IN THE REFERAL HOSPITAL OF UGANDA**

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A provisional clinical case-definition for HIV related illness, developed and modified by WHO for use in Africa was tested on 125 in-patients (General Medical wards) and 55 out-patients at Mulago Hospital in Kampala. In this Referral Hospital, the HIV seropositivity rate among apparently healthy family blood donors is 15%. Among all patients included in the assessment, the HIV infection rate was 37.7% out of 180. (32 among men and 40 among women).

Among in-patients, the provisional case definition had a specificity of 89.7, a sensitivity of 70.2 and a predictive value of 80.4 for HIV seropositivity. The respective figures for out-patients were: 94.1; 61.9; 86.6;

The results support the use of the WHO provisional definition for HIV related illness in adults in Uganda. Since HIV prevalence and clinical disease manifestations vary, a similar assessment is being carried out in other hospitals in Uganda.

TH-90**SEROLOGICAL STUDY ON THE PRESENCE OF HIV IN ETHIOPIA**

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Recent studies have suggested that infection due to the Human Immunodeficiency Virus (HIV) is common in the most Central African Countries, indicating that this virus could be endemic in that region. Both full-blown AIDS and antibodies to HIV-1 occurred in African populations not belonging to well defined risk group (e.g. homosexuals or drug abusers) suggesting that heterosexual contacts and blood transfusion could be the major route of transmission.

In the present study 5606 sera from Ethiopia were tested for the presence of anti-HIV-1 antibodies. The sera were collected in the framework of a Hepatitis B (HBV) seroepidemiological study performed at national scale in 1985-86 on 5270 recruits aged 18 to 30 years and representative of each region of the country. Furthermore, 336 sera from a population of outpatients belonging to the Arsi region, were also analyzed. The surveyed population was characterized by HBV markers (12% positivity for HBeAg and 74% for at least one HBV marker) demonstrating high endemicity of this infection in Ethiopia.

Tests for anti-HIV-1 antibodies were carried out by Enzyme Immunosorbent Assay (ELISA) and reactive sera were retested by Confirmatory Tests (Western Blotting and/or Human T-Lymphotropic Virus Type III (Recombinant, E.Coli)-EIA (Env-Core)). All tests were performed using current commercial kits.

118 out of 5606 tested sera (2.10%) were found repeatedly reactive in ELISA first generation test. However, these reactivities were confirmed by W.B. and Env-Core tests only in four cases (0.07%). In 23 sera, reactivity to one or two bands related to Core proteins (p15 or p24 or p55) was present. However, according to accepted criteria for positivity, these sera could not be considered positive for HIV-1. These sera were further tested for antibodies to HIV-2 by ELISA and W.B. commercial kits (Pasteur) and by Radioimmuno-precipitation assay (RIPA) using ³⁵S-Cysteine metabolically labeled HTLV-IV infected cell lysates. Only two out of the 23 sera were found slightly reactive in ELISA. However these reactivities were not confirmed both by W.B. and RIPA. Our data indicate that HIV infection was not present, at least until 1986, in the general population of Ethiopia.

Friday (F), October 9

POSTER SESSION

F-1

CONGENITAL HIV TRANSMISSION IN A LARGE URBAN HOSPITAL IN KINSHASA. W. NSA*, R. RYDER**, H. FRANCIS***, D. MATELA*, D. UTSHUDI*, * PROJET SIDA, KINSHASA, ZAIRE; *** CDC, ATLANTA, USA; *** NIH, BETHESDA, USA.

We screened for HIV antibodies 6000 women presenting in active labor to Mama Yemo Hospital, a 2000-bed hospital serving the less well off citizens of Kinshasa. The 339 HIV (+) women we identified (5.7%) were matched with 339 age and parity-matched HIV (-) women delivering during the same period. IgM antibodies were detected in the cord blood of 17 (24%) of 70 samples obtained at delivery from children of HIV (+) mothers. Of the 339 HIV (+) women, 45.7% had symptoms suggestive of ARC and 12% had symptoms suggestive of AIDS at the time of their delivery. After 4 months of follow-up, 38 (11.2%) of the babies of HIV (+) mothers have died. Forty-six percent of these babies died during their first week of life and had a mean birth weight of 1651 gms. The other 54% died after their first week of life (mean survival of 44.7 days) and had a mean birth weight of 2509 gms. Eighty-four percent of babies dying after their first week of life had symptoms or signs suggestive of AIDS at the time of their deaths. In the same period two babies (0.58%) of HIV (-) mothers with mean weight of 3300 gms also have died. HIV (+) mothers who lost their babies during the first three months of life had low T-helper/T-suppressor ratios and absolute T-helper counts (Th/Ts=0.26, Th counts=145).

Mothers who are in an advanced stage of their disease (based on either suggestive symptomatology and/or abnormal Th/Ts ratios) are much more likely to infect their babies in utero than asymptotically-infected mothers. This infection appears to induce perinatal and childhood mortality.

F-2

CONGENITAL HIV TRANSMISSION AT AN UPPER-MIDDLE CLASS HOSPITAL IN KINSHASA.

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To better define the frequency of congenital HIV infection and to identify risk factors for this transmission, we screened for HIV antibodies 2574 pregnant women attending an antenatal clinic at Ngaliema Hospital. One hundred and fifty-four (6.7%) of these women were HIV (+). For each HIV (+) woman two age, parity-matched control pregnant women were selected as controls.

Cases were more likely than controls to have had a previous premature delivery (12.9% of cases, 3.9% in controls, $p < .01$). Cases were more likely to have had previous deliveries weighing ≥ 2500 gms. (19.8% in cases, 3.9% in controls, $p < .01$). Case women were also more likely to have previously had children who died after their first month of life than control women (14.1% for case women, 5.7% for control women, $p < .01$). Thirty per cent of HIV (+) women had symptoms of ARC and 1.5% had symptoms of AIDS during their pregnancy. The mean birth weight of babies born to HIV (+) women was 3.09 Kgs while in controls it was 3.19 Kgs. ($p < .01$). Babies born to HIV (+) mothers were significantly ($p < .01$) more likely to have a younger gestational age, smaller cranial perimeter and height at birth than babies born to HIV (-) women. IgM antibodies were detected in cord blood of 20 (30%) of 66 samples collected at birth from babies born to HIV (+) women. HIV (+) mothers delivering HIV IgM (+) babies had T-helper/T-suppressor ratios (Th/Ts) of 0.67 compared to a Th/Ts of 0.90 in HIV (+) mothers delivering IgM (-) infants and a Th/Ts ratio of 2.31 in HIV (-) control mothers. The absolute number of T-helper cells was 467 in HIV (+) mothers with IgM (+) babies, 555 in HIV (+) mothers with IgM (-) babies and 703 in control mothers.

This study suggests that HIV infected women may often infect their babies and that this infection will induce excess rates of perinatal and childhood mortality.

F-3

PLACENTAL PATHOLOGY IN HIV SEROPOSITIVE MOTHERS IN KINSHASA.

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Placentae from 100 HIV seropositive mothers and control mothers were examined as part of the Project SIDA perinatal transmission study conducted in Kinshasa Zaire. Gross and microscopic findings correlate with maternal serologic and clinical status and the gestational age of the infant. Preliminary data suggest a higher percentage of HIV sero positive mothers had chorioamnionitis and funisitis. (P=.001) The placentae from both positive mothers and control mothers showed dysmaturity and a 5% rate of maternal malaria infection. Persistent trophoblastic buds, prominent cytotrophoblasts, increased fetal vascularity, reduction in syncytial knots and vasculosyncytial membranes were seen in both the HIV seropositive and control placentae. Hofbauer cells were numerous within edematous villi. A wide range of histologic findings were seen in separate sections from the same placenta.

Selective ultrastructural sampling for viral particles, immunocytochemistry for viral antigens, and the application of virus specific probes or morphometric analysis using sophisticated computerized techniques may be necessary to distinguish HIV infected placentae from controls. Non specific findings such as asynchronous maturation may reflect maternal nutritional status, water deprivation, cultural practices, or anemia secondary to malaria or hemoglobinopathy. Infection by HIV is highly correlated with promiscuity and chorioamnionitis is associated with coitus in late gestation. Clinical correlation and a detailed sexual history may be necessary to sort out the multifactorial aspects of intrauterine HIV infection in Africa.

F-4

AIDS AND MALNUTRITION IN NEW-BORNS

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Since the AIDS epidemic in Central Africa also affects infants, suspicion is raised concerning the increase of the marasmic condition observed in children. Comparison was made between 18 HIV-sero+ and 22 HIV-sero- marasmic cases (2x Elisa Organon Technica), observed during a 2 month period in 3 hospitals of Bujumbura at the end of '86. Registered variables were age, sex, antropometric values (height, weight, skinfold triceps, brachial circumference), clinical condition, family history and a limited laboratory investigation.

No difference was observed within and between both groups in sex and antropometric measures. Family history (HIV-serology and numbers of children) revealed only differences in HIV-serology: all HIV-sero+ cases could be explained by a HIV-sero+ mother (15/18) or by a transfusion history (3/18). One HIV-sero- case had a HIV-sero+ mother and was in a preterminal stage with a broad clinical picture that could explain his HIV-sero-status. Age difference was the earlier observation of a marasmic condition in the HIV-sero+ group (5 cases observed between 2 and 6 month, compared to none in the oder group). A more complex clinical picture was seen in the HIV-sero+ cases (12/18 compared to 4/22) with the presence of hepatomegaly (12*), adenopathy (15*), trush (10*), purulent otitis (5*), dyspnea (9*) and skin disorders (12*). No difference was observed concerning fever, diarrhea, anorexia and cough. Only 2 cases of Kwashiorkor were seen in the AIDS group compared to 9 the HIV-sero- group. Follow-up was difficult to perform, but post-hospital history showed a higher hospitalisation frequency in the HIV-sero+ group (7 to 4). 3 children in both groups died during their hospitalisation, 7 left the hospital in a bad condition in the AIDS-group compared to none in the other. In conclusion, the observation of a marasmic child in very early childhood with a broad clinical picture could be explained by an HIV infectious status with a bad prognosis. Family history and HIV serology should be included in the evaluation of a marasmic infant in Africa.

* absolute numbers

F-5 THE CDC PEDIATRIC HIV CLASSIFICATION AND CHILDREN OF AFRICAN ORIGIN.

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The CDC has recently proposed a classification for HIV infection in children. We sought to study if this classification was applicable to the children of African origin with a HIV infection studied by our cooperative group in Belgium. Five children were classified class Po, 6 class P1, and 29 class P2. All the patients of class P2 were at least P2A. Of the 29 P2A patients 15 had at least one constitutional symptom (fever, diarrhoea, failure to thrive), patients we classified P2A⁺. The 14 remaining P2A patients had only signs of lymphoid hyperplasia without constitutional symptoms (generalised lymphadenopathy, splenomegaly, hepatomegaly, parotid swelling). These 14 latest patients were classified P2A⁻. Class P2A⁺ children had a higher mortality rate (9/15 versus 1/14 for class P2A⁻ children) occurring after a short clinical evolution. Class P2A⁺ were also much younger (mean 13,5m, median 8 months, range 3-78m versus class P2A⁻: mean 52,5m, median 46,5m, range 24-96m). Similar observations with asymptomatic versus symptomatic interstitial pneumonia will be presented. The marked differences in age, clinical evolution and prognosis between children in groups P2A⁺ and P2A⁻ leads us to suggest that a classification for pediatric HIV infection should put more emphasis on the distinction between these 2 groups. Other aspects of the CDC classification with regard to African children will also be discussed.

F-6 TWENTY-SIX MONTHS FOLLOW-UP OF A CHILD WITH CLASS P₂-C HIV INFECTION : CLINICAL, IMMUNOLOGICAL, SEROLOGICAL AND VIROLOGICAL STUDIES.

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A six years old girl, born to a Zairian mother had multiple lymphadenopathies, hepatosplenomegaly, an asymptomatic pulmonary interstitial infiltrate and meningeal pleiocytosis when first seen in november 1984. During the 26 months follow-up, the signs of lymphoid hyperplasia disappeared progressively. Her physical examination is now only remarkable for small axillary lymph nodes. Although she has presented repeated lower respiratory tract infections, she is in a general good state of health. T cell subset ratio was 0.18 in december 1984, 0.05 in april 1986 and 0.02 in march 1987. The total IgG levels decreased from 2.5 gr % in 1984 to 1.5 gr in april 1985 and 1 gr in march 1987. Lymphocyte proliferation in response to mitogens has remained low throughout the follow-up period.

Isolation of HIV from the peripheral blood lymphocytes was performed at regular intervals. The absence of infectious virus during a period of at least six months correspond to a decrease of p24 antigen in the sera. Despite her actual good clinical condition, her activated lymphocytes are now producing high titer of HIV virus. During the 26 months of follow-up we find constantly presence of "core" and "env" antibodies in the presence of high concentration of "p24" antigen in the sera detected by two commercial tests (Abbott and Dupont de Nemours). The titer of neutralizing antibodies in the sera of the patient was evaluated by the inhibition of HIV syncytia formation on a human T cell line. The titers were low (1:40 to 1:10).

In conclusion, p24 HIV antigen could be detected in the serum of this patient with HIV infection at the same time infectious virus was isolated from lymphocytes and core and envelope antibodies were present in the serum. These virological parameters did not reflect the changes observed in the clinical status of the patient.

F-7 DETECTION OF HIV ANTIGEN, ANTI p24 AND ANTI gp41 ANTIBODIES AND CLINICAL STATUS AMONG DRUG ADDICTS

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We evaluated the presence of human immunodeficiency viral antigen (HIV-Ag) in serum samples collected from anti-HIV antibody positive drug addicts with AIDS, AIDS related complex (ARC), persistent generalized lymphadenopathy (PGL) and from asymptomatics. Specific antibodies to HIV core and envelope (env) viral proteins were assessed by both WB and by a competitive immunoassay employing core (mainly p24) and env (mainly gp41) antigens produced by recombinant DNA technology; HIV-Ag was detected by a solid phase, sandwich-type enzyme immunoassay (Abbott Labs). Twelve of 17 (70.6%) cases of AIDS, 6 of 18 (33.3%) ARC, 5 of 33 (15.1%) PGL and 10 of 93 (10.7%) of asymptomatic intravenous drug users (IVDU) were found HIV-Ag positive. Antigen concentration was found to range from 278 pg/ml in patients with full blown AIDS to 60 pg/ml in asymptomatics. All individuals examined showed anti-env Ab. Anti-core Ab was found in 47% AIDS patients, 77.8% in ARC, 87.9% in PGL and 97.8% in asymptomatic subjects. A close correlation between the presence of HIV-Ag and absence of anti-core Ab was found in all symptomatic individuals (75 vs 25% in AIDS; 66.7 vs 33.3% in ARC and 80 vs 20% in PGL). This finding was similar to data previously described in a cohort of male homosexuals. The relationship between the progressive decline of anti-core Ab prevalence along with increased clinical severity was also found in IVDU. These data support a potential prognostic value of both anti-core Ab and HIV-Ag. However the group of asymptomatic IVDU differs from corresponding groups of homosexual men in the prevalence of HIV-Ag (10.7 vs 4%) and in the presence of detectable anti-core Ab in most HIV-Ag positive subjects. In addition, anti-env Ab was found to be the most reliable marker of HIV infection since it was detected in 100% of infected subjects.

F-8 ANTI-P24 ANTIBODY : A PROGNOSTIC INDICATOR.

Its association with HIV antigenaemia in a cohort of homosexual men.

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252 samples were taken sequentially over the period 1983-1986 from a cohort of 46 patients infected with HIV-1. The samples were assayed for the concentrations of anti-p24 antibody and p24 antigenaemia and the results of these measurements were correlated with the clinical outcome at March 1987. Patients remaining symptomless maintained high levels of anti-p24 while patients who developed AIDS showed a significantly diminished level of anti-p24 (absent in ≈ 80%). 80% of patients with ARC showed no antigenaemia, but 50% of them are anti-p24 negative, while most (≈ 90%) of the patients with AIDS are antigenaemic. Falling concentrations of anti-p24 were observed well in advance of ARC or AIDS diagnosis and well before antigenaemia could be detected (>27 months). These results indicate that both antigenaemia and falling levels of anti-p24 are useful prognostic markers and that anti-p24 seems to be an earlier marker of disease progression than the appearance of p24 antigen.

F-9

SEROLOGICAL COMPARISON OF HIV INFECTED INDIVIDUALS IN AFRICA, U.S., AND EUROPE. D. Paul, D. Mack, D. Mathez*, J. Leibowitch*, J. Goudsmit**, Abbott Laboratories, North Chicago, Illinois, *Hopital Raymond Poincare, Garches, France, **Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands.

The presence of HIV antigen (Ag) and antibodies to HIV core and envelope proteins was determined in sera of HIV infected individuals from Uganda and Central Africa. When this population was compared with U.S./European HIV infected individuals, differences in the prevalence of specific HIV serological markers was noted. Only 12% (5 of 41) of Africans with AIDS or Slim Disease had detectable HIV antigenemia. This was in marked contrast to the 70 to 85% of U.S./European AIDS patients who were HIV Ag positive. In the latter group, 50% of ARC and 25% of asymptomatic/Ab + individuals also had detectable levels of serum Ag. However, in both populations a reciprocal relationship was seen between HIV Ag and anti-core. Thus there was a positive correlation between increasing antigenemia and disease progression in U.S./European HIV infection which was not seen in the African population. Whether this difference is due to virus or host differences is unknown, as is the significance of this in relation to neutralizing antibody production.

F-10

HOW LONG SHOULD BE TREATED AN AIDS PATIENT WITH PNEUMOCYSTIS CARINII PNEUMONIA (PCP)?

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The treatment of choice of PCP is cotrimoxazole 20-100 mg./kg., b.w., iv. or po. divided q. 6-8, or Pentamidine isethionate (4 mg./Kg b.w.) im, or iv. conventionally for 21 days therapeutical trials are now under advanced study. It has been well demonstrated that Pentamidine and Cotrimossazole are equally efficient, even if Cotrimossazole side effects are usually better tolerated.

Pharmacological prophylaxis in seropositive patients with present severe immunodeficiency (< 400 CD4) in order to prevent the first episode or relapse of PCP seems to be a correct approach, even if data are not sufficient for a definitive definition of this subject. It's well known that in patients with AIDS-PCP, P. Carinii is still present in BAL and in TEB even after a 21 days pharmacological treatment or even longer.

After the initial experience with 3 patients, we started a prospective study in all patients admitted for PCP in order to define the ideal duration of full-dose pharmacological therapy in AIDS-PCP. 15 AIDS-PCP patients on full-dose treatment were studied with pulmonary radiograms, transbronchial pulmonary biopsy (TBB) and BAL performed every 21 days, up to the disappearance of Pc. The mean age of patients was 32. 13 were males, 11 were drug addicted, 1 had sexual contacts with prostitutes, 3 were homosexuals.

The follow-up data shows that disappearance of Pc. occurred for 3 patients in 21 days, 3 in 42 days, 2 in 63 days; 4 died before the first control. In one patient who died for causes unrelated to the AIDS, after a 6 month since the first episode of PCP, Pc. was present in lungs on autopsy. For 2 patients the follow-up is still on.

The results of our study show that Pc. disappears from pulmonary tissues between 42nd and 63rd day in most patients under full-dose pharmacological treatment. A longer therapy seems to appear more suitable than a 21-days course.

Further studies have to be carried on to evaluate if there will be differences between full-dose protracted therapy and the conventional 21 days treatment followed by low-dose maintenance regimen.

F-11 THE IMMUNOPROPHYLAXIS AND/OR IMMUNOTHERAPY WITH THYMIC HORMONES IN HIV-SEROPOSITIVE ASYMPTOMATIC SUBJECTS AND IN AIDS PATIENTS
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The group of 36 HIV-seropositive asymptomatic persons, mainly members of AIDS cases families, became a subject of immunoprophylactic trial using thymic extracts /THYMEX-L or TFX-THYMOMODULIN/⁺⁺ applied i.m. 3 x/week for several mths. During the observation period of 12-36 mths 27 cases remained asymptomatic and in 9 /25% a single opportunistic infections /opp.in./ developed. They responded to etiological therapy during shorter time than usually observed in pts outside the above trial. In the up-to-date experience the development of PGL, ARC or AIDS in HIV-seropositive African subjects occurred in about 60-75 % during 1 - 3 yrs observation period.

Out of another gr. of 92 AIDS pts in whom opp.in. were treated acc. to etiological pathogens, in 48 pts the therapy was supplemented with THYMEX-L injections 3 x/week for at least 1 mth. The combined treatment caused faster recovery of general strength, resolution or amelioration of skin changes and itching, disappearance of mouth candidiasis and impr. of appetite with increase of b.w. in several pts from the above gr. and none in the control gr. /N=44/ the recovery of negative skin tests /Multitest-Merieux/, increased number of T4 lymphocytes, impr. of T4/T8 ratio, and decreased ESR - were observed. During the 5 mths follow up, the mortality rate was 84% /37 pts/ in the control gr. and 44% /21 pts/ in the THYMEX-L gr. The levels of anti-HIV antibodies were increased by thymic hormone injections in 1/3 of cases, in the rest - were not altered. - In conclusion, the above observations support the notion that thymotherapy can be considered as safe and fairly effective preventive and therapeutic supportive measure in HIV-seropositive subjects and in PGL/ARC/AIDS pts.

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F-12 ZINC AND BESTATIN AS IMMUNOREGULATORS IN CANCER PATIENTS

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Zinc is an oligoelement necessary for T cell differentiation and maturation. 42 patients, with Aids Related Complex or malignancy in remission and with severe and stable CD4 lymphoid cells. Cytopenia were submitted to Zinc Gluconate, 125mg twice daily orally for three weeks. Reevaluation of T cell subsets one week after the end of Zinc intake showed no significant modification of total lymphocyte counts nor of CD4 subsets. CD8 cells however were significantly increased in absolute number in those patients with initially low counts of these cells while they were significantly reduced in those patients with initially normal or high CD8+ cell counts. Bestatin is a dipeptide with antiprotease and major immunomodulating properties in mice. 34 pts with similar defects were treated by Bestatin 30mg/day 3 days per week during three weeks. Re. assessment of T cell subsets after completion of Bestatin therapy showed a significant improvement of the absolute number of CD4 cells in peripheral blood. CD8 subsets whether initially increased or decreased were modified towards normalisation but the modification reached statistical significance only in the subgroup with initial absolute defect of CD8 cells. CD4/CD8 ratio was significantly increased. Given in this setting Bestatin appears to be an inducer of CD4 cells while Zinc acts as a regulator of CD8 cells.

POSSIBLE GENETIC FACTORS IN AIDS IN TRINIDAD

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Trinidad has a population of 1.2 million comprising people of African descent 41%, Indian descent 41%, Mixed Race 16%, Chinese 1% and Caucasian 1%. At the Conference on African AIDS held in Brussels in 1985 we reported on the ethnic distribution of AIDS in Trinidad, West Indies and stated that our findings suggest that West Indians of African descent may have some genetic predisposition or other factors explaining the predominance of HTLV III/LAV associated diseases in this population: while the paucity of reports of such cases in the Asian population in Trinidad and elsewhere may also suggest a relative immunity to the effects of these two viruses in this latter population. At that time there were 45 cases of AIDS, all in homosexual/bisexuals of African or Mixed African origin. Since then 177 cases of AIDS have been diagnosed in Trinidad. 108 cases (63.1%) were in homosexual/bisexual men. 27 (15.7%) were heterosexual, the majority of which were infected partners of bisexual men. There was only one case of intravenous drug abuse and he practiced this habit in United States before returning to Trinidad. There were 12 cases (7.0%) of AIDS in infants of HIV positive mothers. 157 cases (91.8%) were in people of African or Mixed African descent, 8 (4.9%) in people of Indian ancestry, 3 (1.7%) were Caucasian and 1 (0.6%) Chinese. The common opportunistic infections seen are candidiasis, toxoplasmosis, histoplasmosis and cryptococcosis. Much less commonly seen in pneumocystis carinii pneumonia (five cases) and Kaposi's sarcoma is very rare, being seen in only 2 cases. In a survey of 106 healthy homosexual men in Trinidad in 1988, 36/90 (40%) of those of African and Mixed African descent were HIV seropositive compared with 6/16 (37.5%) of those of Indian Descent. As the prevalence of homosexuality appears to be almost equal in various ethnic groups in Trinidad the possibility of a genetic factor as a cause of the relative paucity of cases of AIDS in Indo-Trinidadians was considered. In this respect studies on HLA haplotypes in 130 healthy males in Trinidad have shown that HLA DR5 which is present in 24.8% of Black African in Africa is absent thus far in 70 Afro-Trinidadians while present in 3.5% of Indians. This may be associated with the rarity of Kaposi's sarcoma in cases of AIDS in Trinidad. In addition, there was a relative absence of HLA DR6 (4.3% in Indo-Trinidadians versus 20.2% in Afro-Trinidadians and particularly HLA DR1 (0% versus 15%) in people of Indian descent compared with those of African ancestry. Further studies are being pursued particularly with HLA DR1 with respect to its presence being associated with an increased susceptibility to HIV clinical disease on the one hand, or its absence being protective or conferring resistance on the other.

HIV ANTIGENAEMIA, Gc PHENOTYPES AND AIDS IN DUNGU, ZAIRE

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Confirmed anti-HIV-1 positive cases of AIDS and advanced ARC, sampled in 1986 in Dungu, northeastern Zaire (see companion abstract), have been examined for the presence of HIVAg by the Abbott assay. Only 2 out of 31 (6.5%) had demonstrable HIVAg. This figure is in sharp contrast with the 50% or higher positivity rates which have been reported for similar patients in Europe and America.

Gc phenotypes have been determined on Dungu sera by isoelectric focusing followed by staining with peroxidase-labeled antibody to vitamin D binding protein. In a random sample of 62 anti-HIV negative control subjects, Gc-1f.1f was found in 47 (76%); Gc-1f allele frequency was 86%. Predominance of Gc-1f was even higher than that previously reported in Africans. Gc-2, all heterozygous, was shown in 6 (10%); Gc-2 allele frequency was 5%.

In contrast, Gc-1f.1f was found in only 12 out of 29 AIDS patients (41%) ($p < 0.01$). They had a Gc-1f allele frequency of 69% ($p < 0.01$). Conversely, Gc-2 was shown in 9 (31%); Gc-2 allele frequency was 17%. Frequencies of Gc-1f and of Gc-2 in 56 asymptomatic anti-HIV positives were intermediate between those in AIDS patients and in anti-HIV negative controls. Gc-1s frequencies were similar in all groups.

These results are the opposite of the findings by Eales et al. (Lancet, 1987) in British homosexuals. Further results and an interpretation will be presented.

F-15 MALIGNANCIES IN THE COURSE OF HIV INFECTION

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Kaposi's sarcoma was diagnosed in our institution in 50 HIV antibody positive men. In addition, Non-Hodgkin's lymphoma, multiple myeloma, malignant melanoma and acute myelomonocytic leukemia was found in 6 patients. We report the clinical course and management of those patients who developed malignancies. Three patients had high-grade Non-Hodgkin's lymphoma including a case of Burkitt-type lymphoma. Rapid tumour progression and involvement of extranodal sites determined the further outcome. Plasma cell dyscrasia occurred in a further patient who developed subsequently multiple myelomas. Malignant melanoma was found in a single lymph node of a HIV patient. Radical neck dissection was performed, however, a few weeks later metastases were found which disseminated rapidly throughout the bone. In another patient with fever, bone-marrow examinations were diagnostic for acute myelomonocytic leukemia. Interferon treatment led to a stabilization for 2 1/2 months, thereafter progress was noted.

The rapid course of malignancies developing under conditions of cellular immunodeficiency is a particular feature. The frequency of malignancies in our patients with AIDS was convincing to assume a causative correlation between HIV infection and the development of malignant diseases.

F-16 HBV AND HIV STATUS IN HEPATOCELLULAR CARCINOMA IN ZAIRE

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A study was undertaken to analyze both the HIV status and the HBV profile in Zairian patients bearing histologically proven hepatocellular carcinoma (HCC). Sera from 40 patients and 60 age and sex-matched controls were checked for anti-HIV antibodies using ELISA tests coupled with Western blot analysis. The HBV markers were determined by both ELISA and RIA.

Anti-HIV antibodies were found in 5% of sera from the controls and 20% in the patients ($p < 0.01$) whereas the HBs antigen seroprevalence was 8% in the controls and 57.6% in the patients ($p < 0.001$). The antibodies to HIV were more predominant in the HCC patients with at least one HBV serological marker (75%) than in the HBV seronegative (25%) group ($p < 0.05$). However, the anti-HIV seropositivity was not significantly associated with the HBs carriage status ($p < 0.5$). As the modes of transmission of both HBV and HIV are quite similar in the considered populations, the above figures of HBV and HIV status in the controls as well as in the HCC patients would be admittedly expected. Furthermore, one might expect enhanced carcinogenicity of the HBV in the HBV-infected immunosuppressed (AIDS) patients. Therefore, cross-sectional longitudinal as well as vertical epidemiological studies are needed to assess whether or not the HCC prevalence is increasing in the countries where both HBV and HIV are highly prevalent.

F-17 CONTINUOUS INVITRO GROWTH OF KAPOSI'S SARCOMA-DERIVED ENDOTHELIAL CELLS. S. Nakamura*, S.Z. Salahuddin*, L. Larson*, P. Biberfeld**, P.D. Markham*, and R.C. Gallo**.
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The aggressive, epidemic Kaposi's Sarcoma (KS), associated with HIV infection, has a complicated histology consisting of spindle cells, endothelial cells, fibroblasts, inflammatory cells and other cell types. The origin and nature of this lesion is a matter of continued interest and confusion. Studies have been difficult due to lack of an in vitro culture system. Here, we report on the development of conditions for long-term culture of KS-derived endothelial cells (KSE) and on some unique properties of these cells. Cell cultures were initiated from lung KS lesions of AIDS-patients, and maintained in the presence of conditioned medium (CM) from HTLV-II-infected human T4⁺ cell lines. Such a CM stimulated the continuous growth of 6 of 6 different KS cell lines for over 10 months and also normal umbilical cord-derived endothelium (UVE). KS endothelial cells (KSE) were selectively stimulated by this CM in comparison to well known growth factors. These KSE cells were negative for Factor VIII related antigen by immunostaining but had the ultrastructure and other properties of endothelial cells. Our findings indicate that KSE cells have a different growth factor dependency than UVE cells. The growth factor(s) in CM that stimulates the growth of KSE does not bind to heparin and differs from acidic and basic fibroblasts growth factors. Studies are in progress to distinguish this activity from other known growth factors and cytokines and to characterize differences between KSE and UVE.

F-18 ENDOTHELIAL CELL MARKERS ON AIDS-KAPOSI'S SARCOMA CELL CULTURES.
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So far, endothelial cell markers have not been detected on Kaposi's sarcoma (KS) derived cell cultures, although KS is postulated to generate from blood vessel endothelial cells. We have cultivated cells from KS-skin biopsies of seven AIDS patients. 23 cultures out of 42 were tested for the expression of several endothelial cell markers. Cells were found to be positive for Ulex europaeus I Agglutinin, acetylated low density lipoprotein and alkaline phosphatase. The number of positive staining cells varied widely from culture to culture, depending on culture conditions and passage number. From fading of the staining intensity and from staining patterns of subcloned cultures we conclude that the cells cease to express the markers in the course of passaging rather than the positive cells are lost through overgrowth of fibroblasts. Assays performed to evaluate the degree of malignancy of KS cells (soft-agar colony formation, nude mouse tumor formation, reduced serum dependency) revealed an elevated passage number in 0.5% fcs. The maximum life-span of the cultures is 1 1/2 years, encompassing 52 passages. Cultures were tested for the presence of HIV- and HBV sequences and found to be negative.

F-19 MOLECULAR CHARACTERIZATION OF KAPOSI'S SARCOMA AND VASCULAR ENDOTHELIUM. B. Ensoli*, L. Larson*, S. Nakamura*, Z. Salahuddin*, B. Beaver*, P. Biberfeld**, F. Wong-Staal*, and R. C. Gallo*. *Laboratory of Tumor Cell Biology National Cancer Institute Building 37, Room 6A09 Bethesda, Maryland 20892.

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Cultures of Kaposi's Sarcoma (KSE) and Umbilical Vein (UVE) derived endothelial cells were studied by Northern Blot techniques for mRNA expression of various growth factors and cytokines. Clear differences were observed between these cell cultures. All the KSE cultures tested (6) showed strong to significant messages for Basic Fibroblast Growth Factor (bFGF) (+++), Acidic Fibroblast Growth Factor (aFGF) (+), Transforming Growth Factor beta (TGFβ) (+), Interleukin-I alpha (IL-1) (+) and IL-1β(+++). In parallel studies, the UVE cells showed significant hybridization only for TGFβ and HLA-DR, in addition to a weak hybridization to a FGF. No significant mRNA for B-cell Growth Factor (BCGF), Colony Stimulation Factor-1 (CSF-1), Interferon gamma (IFN), TGF, TCGF, (IL-2), TNF, TNFβ, Granulocyte - Monocyte Colony Stimulating Factor (GM-CSF) were demonstrable in either KSE or UVE. Furthermore, KSE cells did not produce detectable levels of mRNA for HLA-DR. The observed characteristics of KSE cells could reflect either properties intrinsic to the endothelium of Kaposi's Sarcoma or differences in the origin of KSE and UVE cells.

F-20 TUBULORETICULAR STRUCTURES IN KAPOSI'S SARCOMA CELLS: AN ULTRASTRUCTURAL MARKER FOR AIDS?

K.-H. Marquart*, E. Katongole-Mbidde**, M. Phillip***, R. Engst****, *Institute of Pathology, Gesellschaft für Strahlen- und Umweltforschung mbH München, Neuherberg, Federal Republic of Germany, **Uganda Cancer Institute, Kampala, Uganda, ***Dermatologic Clinic, Krankenhaus Bad Cannstatt, Stuttgart, FRG, ****Dermatologic Clinic and Polyclinic, Technical University of Munich, Munich, FRG. Intracytoplasmic accumulations of branched microtubules have been observed by electron microscopy in blood cells and cells of different tissues from AIDS patients. These tubuloreticular structures have been called an ultrastructural marker for AIDS. To search for such structures, we investigated by electron microscopy biopsy material from 6 AIDS-associated African, 2 AIDS-associated European, 8 endemic African, and 3 classic European Kaposi's sarcomas. Tubuloreticular structures were found in 6 AIDS-associated (5 African and 1 European), but also in 5 non-AIDS-associated (3 African and 2 European) Kaposi's sarcomas. The 6 AIDS-associated tumors contained loose and compact tubuloreticular structures in varying quantities. The 5 non-AIDS-associated tumors showed occasional loose tubuloreticular structures. Our study indicates that tubuloreticular structures that are found in Kaposi's sarcoma cells are not an ultrastructural marker for AIDS.

F-21

CLINICAL, SEROLOGICAL, AND ULTRASTRUCTURAL FEATURES OF AIDS-ASSOCIATED KAPOSI'S SARCOMA IN UGANDA

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Sixteen Ugandan cases of AIDS-associated Kaposi's sarcoma were studied. The patients, 14 males and 2 females, had a mean age of 28 years, ranging from 2 to 51 years. All patients presented with generalized lymphadenopathy. Twelve patients had multiple cutaneous nodules or plaques scattered all over their bodies. Oral tumour lesions, predominantly of the palate, were found in 9 subjects. Four patients showed no skin lesions. Two of them, a 2-year-old boy and a 20-year-old man, had only generalized lymphadenopathy. Two other males exhibited generalized lymphadenopathy together with oral tumour lesions. Histological examination of biopsy material from skin nodules and lymph nodes of the patients showed Kaposi's sarcoma tissue with mixed cell pattern. Frequent clinical features other than Kaposi's sarcoma were weight loss, fever, cough, diarrhoea, and oral candidiasis. Concomitant cutaneous cryptococcosis was revealed in one case. Blood serum samples from the 16 patients were strongly positive for HIV antibodies (Pasteur and Abbott ELISA tests). Specificity to HIV antigens was confirmed by immunofluorescence assay and Western blot analysis. Serum levels of β_2 -microglobulin and neopterin, indicators of an activation of the cellular immune system, were elevated. Ultrastructural investigation of Kaposi's sarcoma specimens from 7 patients revealed intracytoplasmic tubuloreticular structures in capillary endothelial cells from 6 cases. No retroviral particles were observed. Our study shows that the clinical and serological features of AIDS-associated Kaposi's sarcoma differ significantly from those of endemic African Kaposi's sarcoma. We found no ultrastructural feature that would allow a distinction between both forms of Kaposi's sarcoma.

F-22

ULTRASTRUCTURAL FINDING OF "TUBULORETICULAR INCLUSIONS" SEEN IN HAIRY CELL LEUKEMIA AND IN AIDS: A MARKER OF VIRUS-INDUCED DISEASE ?
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We would describe a very unusual ultrastructural pattern found in hairy cells (HCs) from a woman, 44-year-old, affected by Hairy Cell Leukemia (HCL).

The transmission electron microscopy (TEM) investigations were performed on peripheral blood mononuclear cells (PBMC). Along with the characteristic cytoplasmic villous projections of the HCs, the most striking feature we have found within approximately 20% of the HCs examined is a presence of abnormal subcellular organelles consisting of intracytoplasmic structures which must be identified with the "tubuloreticular inclusions" (TRI), already detected by Grimley and associates within peripheral mononuclear cells. These structures consist of nuclease and RNase resistant complexes of lipid-rich membranes and proteins. They arise within the cytosecretory apparatus and are composed of fine tubular meshworks that distend the endoplasmic reticulum. The structures found by us within HCs are located close to the nucleus, surrounded by a thin rim and are the same to the tubuloreticular inclusions described within the cytoplasm of PBMC from adults and an infant with AIDS and from homosexuals with LAS.

This is, to our knowledge, the first report of TRI in HCs, whereas the TRI were detected in 12 of 12 AIDS patients, in 3 of 12 patients with pre-AIDS and were localized to suppressor/cytotoxic T lymphocytes; TRI are also abundant in tissue biopsy specimens from AIDS patients. The close relationship existing between TRI, viral infections and serum interferon levels, clearly documented in AIDS and LAS, and the presence of TRI in two apparently most different diseases, such as AIDS-LAS and HCL, may suggest a possible etiologic association between a virus infection and outbreak of HCL: this virus might be a retrovirus, perhaps of HTLV family, such as the etiological agent of AIDS. This suggestion may be supported by the report of at least one case of AIDS with Kaposi's sarcoma associated with HCL.

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Anti Nucleo-Capsid antibodies and S-HIV antigenemia: correlations with blood T4 cell counts and clinical status. D. MATHEZ*, D. PAUL**, G. SALMOT***, D. JAYLE****, J. LEIBOWITZ*. *Hôpital Raymond Poincaré, Garches, FRANCE; **ABBOTT Research and Development, Abbott Park, Ill, USA; ***Hôpital Claude Bernard, Paris, FRANCE; ****Hôpital Tarnier, Paris, FRANCE.

Serum HIV antigen concentration was measured by immune capture where untreated serum is incubated with solid phase human anti-HIV IgG and further reacted with rabbit IgG recognizing HIV (mainly) core antigen (P24). Anti-Nucleo-Capsid antibody assay used recombinant (mainly) P24 protein (solid phase) and competing human anti-HIV IgG. Inhibition > 85% that of anti-HIV IgG arbitrarily defined a high (affinity/titers) NCA antibody specimen (H- NCA- Ab).

A reciprocal distribution between S-HIV-Ag and H-NCA-Ab was found: 71 S-HIV- Ag positive among 98 without H-NCA-Ab compared with 6/57 with H- NCA- Ab (80% versus 11.5%). S-HIV-Ag was detected in 41/72 patients with T4 <200/u1 and 26/74 with T4>700 while H-NCA-Ab were detected in 16/82 and 53/90, respectively. Among patients without H-NCA-Ab, S-HIV-Ag distribution was independent of T4 counts. These results suggest that S- HIV-Ag may contribute to declining anti-Core antibody (in our serially tested patients) but that it is not a main factor in the pathogenesis of T4 lymphopenia.

In contrast, 12/18 Kaposi patients with T4>200 had detectable S-HIV-Ag compared with 36/111 non-Kaposi patients. Conversely H-NCA-Ab were found in 3/20 Kaposi patients vs 102/195 non Kaposi (15% vs 52%). Soluble viral products could play an active part in pathogenesis of Kaposi independently of the process leading to T4 lymphopenia. Accordingly, H- NCA-Ab would act as anti- kaposigenic factor.

LYMPHADENITIS WITH HYPERVASCULAR FOLLICULAR HYPERPLASIA AND KAPOSI'S SARCOMA IN AFRICAN PATIENTS WITH HIV INFECTION

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Recently, a characteristic form of lymph node (LN) reaction associated with Kaposi's sarcoma and AIDS was observed in the USA and Europe. This LN reaction pattern resembling that in Castleman's disease is of diagnostic and theoretical importance. It is valuable in alerting pathologists to search for Kaposi's sarcoma. In addition, it helps to understand the unclear relation between AIDS, multicentric form of Castleman's disease and Kaposi's sarcoma. The aim of our presentation is to demonstrate the occurrence of this LN lesion in African patients with AIDS and Kaposi's sarcoma. The pathohistological analysis of the LN's was performed for diagnostic purposes. Slides were stained with conventional stainings. Immunoperoxidase technique for the immunoglobulin heavy chains (α , γ , ϵ , μ), κ and λ light chains and S-100 were performed. In addition, in situ hybridization with biotinylated probes for CMV and EBV were carried out. The lesions of LN's from Africa were compared with those of our European cases. The LN morphology in both groups of patients was very similar. The LN contained numerous follicles. The germinal centres (GC) showed a histologic spectrum ranging from hypervascular centres to atrophic ones. In some LN's direct transition between Kaposi's sarcoma and the vessels of the GC's was registered. A marked vascularity was noted in the follicles as well as in the extrafollicular parenchyma. The pulpa was heavily infiltrated with plasma cells. The immunostaining with S-100 protein detected severe alteration of the follicular dendritic cells. The in situ hybridization did not show viral nucleic acids of CMV or EBV. Our results indicate that this peculiar form of LN reaction of HIV-infected patients is characteristic enough to suggest that the patient may have Kaposi's sarcoma.

F-25**IMMUNOHISTOCHEMICAL AND HISTOPATHOLOGICAL ANALYSIS OF LYMPH NODES FROM HIV+ PATIENTS**

G. Nicolò, A. Perasole.

An immunohistochemical study has been performed on cryostat sections of 60 lymph nodes from 35 HIV+ subjects at high risk for AIDS, by using a panel of mono- and polyclonal Abs (indirect immunoperoxidase method, Abs: Leu 1/2a/3/4/6/7, BA-1, B1, Kappa and Lambda Ig light chains, HLA-DR, Anti-Transferrin receptor). All the patients have been clinically staged according to C.D.C. (20 LAS.60%, 6 ARC.17%, 8 AIDS.23%) and W. Reed Army Institute (24 WR2 . 70%, 1 WR 3 . 3%, 2 WR 4 . 6%, 7 WR 6 . 21%) classifications. The histologic appearances in the nodes were classified according to Ràcz et al. in four types: 1) Follicular 11 pts (31%), 2) Hypervascular Follicular 2 pts (6%), 3) Mixed Follicular 14 pts (40%), 4) Follicular Involution and Lymphocyte Depletion 8 pts (29%). A general increase of T-lymphocytes has been observed in the first three histological types (HTs). T-suppressor cells were greatly increased in G. centers, mantle zones and interfollicular tissue in 97% of the patients belonging to HTs 1/2/3, while this subset showed a lesser increase in HT4. In all the four HTs a perivascular clustering of Leu 3+ (Helper Inducer) cells was detected; Leu 6+ (Common Thymocytes, Langerhans) cells were present in 95% of HTs 1/2/3 and 62% of HT4. Leu 7 (natural killers) was normally distributed in all patients. BA-1, B1, Kappa and Lambda IG light chains HLA-DR and transferrin receptors were strongly expressed (>75% of the cells) in G centers, Mantle Zones and Paracortex in 73% of HTs 1/2/3 and in 12% of HT4. On the basis of the discrepancy among the clinical-histological classifications and the immunohistochemical findings in the patients with HT4, the immunohistological analysis on frozen sections could be considered a useful tool to suggest a different outcome in the course of disease in HIV+ patients. Surely a larger number of patients with HT4 should be investigated to confirm our results.

F-26**ANATOMOCLINICAL FEATURES OF ENDEMIC AND AIDS-ASSOCIATED KAPOSI'S SARCOMA IN ZAIRE**M.M.R. Kalengayi¹, L.O. Kashala¹Department of Pathology, Kinshasa Medical Faculty¹ and African Organization for Research and Training Cancer (AORTIC)², Zaire

In view of further studies on AIDS-Associated KS in Zaire, it proved of much concern to re-evaluate major pathological and epidemiological features of the so-called endemic African KS in this country. So, 299 cases of KS for a 21-year period (1963 up to 1983) were reviewed in our Department. Out of these 299 cases, 268 were found in the skin (89.6%), predominantly in the lower limbs, whereas the remaining cases (31 = 10.4%) were located in other sites, mainly in the lymphnodes (71%). Adults were more affected (67.6%) than children (6.7%) and adjusted M/F ratio was 4.81/1. Geographically, the highest frequency (24.7%) of KS was found in the Equator Province, followed by the Kivu Province (15.38%). Only 1 KS concomitant cancer was found (0.3%). Histologically, the sarcomatous (42.5%) and the mixed (49.2%) types were more frequent.

These features are tentatively compared to those found in a preliminary study of KS encountered recently in Zairian patients with patent AIDS and discussed.

F-27

DIAGNOSTIC IMPLICATIONS OF GENITAL KAPOSI'S SARCOMA (KS)
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Genital KS before the AIDS epidemic was virtually unknown. In 1973 at UCI a single patient (pt) with scrotal nodular KS mixed cellular (MC) type was seen. A case each year was seen in Nov. 1982, Nov. 1983 and Dec. 1985. Eight cases were seen in 1986 and another 10 cases have been seen between Jan and May 1987. Of these 21 pts, 19 were male, 2 female, median age 29 yrs (range 7-70 yrs). Apart from 5 pts all were under 40 yrs. Median symptom duration 7 mo (range 2-48mo). All except 5 pts with nodule/plaque KS, had mixed clinical picture. The commonest histological type was MC 12 pts, monomorphic 1 pt, and 9 pts not typed. 17 of the 15 pts whose HIV serology is known were positive (80 %) whereas in 6 pts the status is unknown. 2 of the 3 pts negative for HIV had pure nodular disease while the 3rd had mixed nodular, infiltrative and florid lesions. The pt who presented in 1973 remains alive and disease free 13.5 years later making it unlikely that he had AIDS associated KS. It would appear therefore that genital KS is a feature of HIV associated KS and that his mode of presentation is new in Uganda despite years of treating aggressive KS.

F-28

CLINICAL FEATURES OF ENDEMIC AND ATYPICAL AFRICA KAPOSI'S SARCOMA

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Endemic Kaposi's Sarcoma in Africa presents with nodules in or under the skin of swollen feet or hands. Nodules may regress spontaneously, persist unchanged or grow rapidly to form tumours which later ulcerate. With time swollen limbs cease to pit on pressure, and their temperature rises. Infiltration and nodules extend proximally but skin lesions on trunk or head or neck are rare and visceral extension occurs only in patients with advanced limb disease. Over 90% of patients obtain a durable objective response to treatment with Actinomycin D and Vincristine.

In contrast, atypical African Kaposi's Sarcoma presents with symmetrical lymphadenopathy. Nodules are rare but slightly raised plaques occur on the trunk, head and neck or proximal parts of limbs, sometimes accompanied by oedema. Many patients have plaques in the mouth, predicting nodules in the mucosa throughout the gastrointestinal tract. Pleural effusions or bilateral infiltration of lungs occur in some patients. Most have opportunist infections, commonly oral candidiasis, but also tuberculosis of nodes or herpes simplex and staphylococcal abscesses. Weight loss may be severe and some patients develop tremors, ataxia and cognitive defects suggesting HIV encephalopathy.

These features will be illustrated.

CLINICAL MANIFESTATIONS OF KAPOSI SARCOMA (K.S.) IN CENTRAL AFRICA.

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To determine the frequency of K.S. among African AIDS cases and the clinical features of K.S. in Central Africa we performed the 2 following studies.

Among 290 AIDS cases (WHO clinical case definition +) (109 men, 181 women) observed in the department of Internal Medicine at Mama Yemo Hospital (M.Y.H) in Kinshasa Zaire, during the period August to December 1985, 12 (4%) had K.S. [6(6%) males, 6 (3%) females].

During the period July 1985 to December 1986, 68 African K.S. patients were referred to the AIDS clinic of M.Y.H. Sixty (88%) were HIV+, [40 (67%) males 20 (33%) females] median age 31 years (range 3-59 years). Eight (12%) were HIV- (all males) median age 40 years (range 20-72 years). The following signs and symptoms were observed significantly more frequently among HIV- patients ($p < 0.02$). Weight loss $> 10\%$: 49 (82%) vs 3 (38%), episodes of fever: 44 (73%) vs 1 (13%), episodes of diarrhea: 29 (48%) vs 0, cough: 35 (58%) vs 1 (13%), asthenia 51 (85%) vs 3 (38%), anorexia 40 (67%) vs 13%, pruritus 23 (38%) vs 0, polyadenopathy 31 (52%) vs 0. Cutaneous K.S. lesions were present in 57 (95%) of the HIV+ patients and 6 (75%) of the HIV- patients. In patients without cutaneous lesions, the diagnosis of K.S. was made at lymph-node biopsy in one HIV+ and in one HIV- at gastroscopy in 2 HIV+ patients and at conjunctiva biopsy in one HIV- patient. Oral K.S. lesions were observed in 35 (58%) HIV+ patients vs one (13%) HIV- patient. Conjunctival K.S. lesions were found in 14 (23%) HIV+ vs one (13%) HIV- patient. Upper gastro-intestinal K.S. lesions were observed in 11 (73%) of the 15 HIV+ patients in which an endoscopy was performed. Lesions were observed in the stomach in 11 (73%) in the duodenum in 2 (13%) and in the oesophagus in one (7%) Recto-sigmoidal K.S. lesions were found in 5 (83%) of the 6 HIV+ patients in which a recto-sigmoidoscopy was performed. In 8 (42%) of the 9 HIV+ patients with pulmonary symptoms in which a bronchoscopy was performed, K.S. like lesions were observed in the bronchial tract.

K.S. occurs less frequently among African heterosexual than among American homosexual AIDS patients. In Zaire, in most instances it is possible to distinguish HIV+ from HIV- K.S. patients on the basis of their clinical presentation.

KAPOSI'S SARCOMA (KS) "REVISITED" AT AIDS TIME: MULTIFORM EXPRESSION OF A TUMOR
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The occurrence of KS in AIDS patients in USA, EUROPE and Africa has raised much concern on this tumor.

When re-examining actually KS since the princeps description of this tumor in 1872, its subsequent reports in black Africans, in immunodepressed patients for known causes and recently in AIDS patients, one is allowed to consider that KS express so far into 4 quite distinct forms which would be delineated according to anatomoclinical, epidemiological, biological as well as prognostical criteria.

The following forms are referred as to and concordantly argued:

- (a) indolent (caucasian) form;
- (b) active or aggressive or evolutive (african) form;
- (c) "opportunistic" reversible form of the chemo- radio-therapy immunodepressed patients; and
- (d) "opportunistic" fulminant, rapidly progressive and irreversible form of AIDS patients.

However, all 4 forms are microscopically alike when using the so far known histological classifications as well as the recent one proposed by the authors (IARC Publications 63: 559-582, 1984).

Medical practitioners, particularly those working in Sub-Sahara, Africa, are thus to be aware this multifacial expression of KS to prevent automatic affiliation of KS to AIDS in the black Africans, without prior appropriate bioimmunological tests or a very skillful clinical assessment of KS patients as depicted by Odio et al, (WHO Seminar, Bangui, 1984).

F-31 HIV SEROPOSITIVITY AND T_4/T_8 RATIO IN ENDEMIC KAPOSI'S SARCOMA IN KENYA,
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To determine if there is any significant association between endemic Kaposi's Sarcoma and HIV seropositivity and also to determine the T_4/T_8 ratio in endemic Kaposi's sarcoma, 50 patients with histologically diagnosed endemic Kaposi's sarcoma and 50 healthy medical personnel as controls were studied at Kenyatta National Hospital at the department of Radio therapy. 20mls of blood was taken from every participant and subjected to ELISA for HIV antibodies and positive samples by ELISA for HIV antibodies were confirmed by Western Blot. T cell subsets were done using Ortho-Mune Monoclonal antibodies. In patients with Endemic Kaposi's Sarcoma seropositivity was 4. (2patients) and seropositivity for controls was 2: (one patient). There was no significant association between HIV seropositivity and endemic Kaposi's Sarcoma ($p>0.5$). T_4/T_8 ratio in endemic Kaposi's Sarcoma was 0.96 while in the control it was 1.81. There was significant depression of the T_4/T_8 ratio in patients with endemic Kaposi's Sarcoma ($p<0.0001$).

Therefore, there is no significant association between HIV infection and endemic Kaposi's Sarcoma. The T_4/T_8 ratio is also significantly reduced in patients with endemic Kaposi's Sarcoma.

F-32 INTERFERON ADMINISTERED INTRALESIONALLY IN SKIN AND ORAL CAVITY LESIONS IN PATIENTS WITH AIDS-RELATED KAPOSI'S SARCOMA (AIDS-KS).
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The Kaposi's Sarcoma, both the classical and the epidemic AIDS-related, is known to be scarcely responsive to the traditional antitumoral therapy. Recently positive results have been reported in AIDS-KS with Interferon (IFN) administered in heavy doses via the traditional systemic routes.

We have experimented rec IFN 2b (Intron-A, Schering) injected intralesionally in 4 male patients (average age 22 years, heterosexuals, drug addicts, HIV 1 seropositive) with skin and oral cavity lesions from AIDS-KS. Two were scarcely responsive to the traditional systemic routes, two never treated before.

Cases n° 1 and 2: Presence of skin and oral lesions (average diameter 4-8 mm) from AIDS-KS unresponsive to systemic IFN treatment. Intralesional IFN treatment (3-5 millions, 3 times/week for 4-5 weeks according to lesion's extent) caused clearing of the treated lesions and persistence of those treated with placebo.

Cases n° 3 and 4: Presence of respectively 5-6 skin nodules (4-6 mm in diameter) from AIDS-KS which had never been treated before. The nodules treated with IFN cleared, while those treated with placebo did not. In spite of the good response of the treated ones, a new skin nodule appeared in patient 3.

The clearing of the IFN injected lesions and the persistence of the placebo injected ones; the appearance of a new skin nodule in patient 3 in spite of the clearing of the nodules treated with IFN; the absence of a clear involvement of the systemic and local immunities; all these factors suggest that in the cases treated by us, the IFN has prevalently a local action, which is related to its well known antiproliferative, cytostatic and antiviral activity. The fact that a massive quantity of IFN is injected intralesionally into the tumour is probably the reason why it is so effective, and for this same reason its action seems to be dose-dependent. This would explain the positive response in cases 1 and 2, where the treatment via the traditional systemic route had failed. Systemic side effects are generally mild and limited and have not interfered with therapy. On an average of 3 months after treatment there were no signs of relapse, while a histological examination showed substitution of the treated tumour nodules with fibrotic tissue.

The results of this study indicate that the IFN administered through the intralesional route into the skin and oral cavity lesions from AIDS-KS seems to be very effective and can be recommended even when therapy through the traditional systemic route has proved scarcely effective.

F-33

FAMILIAL MEDITERRANEAN KAPOSI'S SARCOMA(FMKS):TWO FAMILIES

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From 1976 to 1987 we have studied and followed-up 214 biopsy confirmed cases of MKS(HIV-I-negative) in Greek patients, in Greece. Among them there are two instances of FMKS. The first family includes a brother, a sister and their maternal uncle. The second family consists of a brother and a sister. The ages of these patients ranged from 66 to 82 years (mean age 76,2 yrs) and they were (biopsy) diagnosed from 1978 to 1987. Both families live in endemic areas of KS, but in different locations in Greece and there is no relationship between the first and latter family. Detailed studies in our FMKS cases revealed interesting clinical, hematological, immunological and immunogenetic findings which will be presented and also commented. To our best knowledge our FMKS cases consist of the 17 and 18 instances in the literature of Familial Kaposi's Sarcoma.

F-34

PRACTICAL MEASURES TO PREVENT AIDS IN SENEGAL AND WEST AFRICA.

Inter-universities convention to study Human viruses, Cancers and related diseases*. National AIDS committee from SENEGAL** and National center for sexually transmitted diseases, SENEGAL.** Université de Dakar, SENEGAL, Universités de Tours et de Limoges, FRANCE. Harvard University, Boston, U.S.A. **Comité national de lutte contre le SIDA, Dakar, SENEGAL.

Within the framework of a convention between the universities of Dakar in Senegal, the universities of Tours and Limoges in France and Harvard University in the United States to study "Human viruses, cancers, and related diseases", a prevention program against AIDS has been organized. This program follows a large seroepidemiologic study concerning human retroviral infections, hepatitis B and sexually transmitted diseases in Senegal. Specific prevention measures coordinated by the national AIDS committee and the national center for sexually transmitted diseases (STD) in Senegal. These measures are focused in 2 areas:

- AIDS as a sexually transmitted disease:

- a) High risk groups (prostitutes and STD patients). All prostitutes are required to register once a month in a STD clinic to legally practice prostitution. During this visit to the clinic they will receive specific information concerning AIDS and its prevention and receive access to condoms.
- b) General public receive numerous news articles concerning AIDS and its prevention, radio live show with answers to public questions, and stickers "Prevention du SIDA" are largely distributed to remind the problem and to give a phone number to call for any information.

- AIDS as blood transmitted disease

- a) Blood bank screening has been organized for immediate ELISA screening and confirmation by western blot
- b) Educational material is provided to the health care workers concerning the sterilization of needles and syringes.

Others more specific aspects of the Senegalese measures will be discussed. Examples of educational and health care related material will be displayed beyond the poster.

Name of presenting author: S. M'Boup, Hopital le Dantec, Dakar Fann, Senegal

F-35 CHANGING SEXUAL BEHAVIOR IN AFRICA TO REDUCE THE HIV EPIDEMIC

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As it has become apparent that the HIV epidemic will have a devastating effect on the people of Africa unless the epidemic is controlled, there are increasing calls for educational programs. These are generally directed by the central governments and have as their goal a reduction in the number of sexual partners. These programs are presented in a manner more appropriate to Western Europe than to Africa. Promiscuity as understood in the Judeo-Christian sense in Western Europe is not generally applicable to Africa. Africans do not have more sex than do West Europeans, nor are they less moral. They rather have sex under a different set of customs. This may look like promiscuity to a person ignorant about the sexual mores of the tribe. To treat it as promiscuity will lead to failure as one will be trying to modify a type of behavior which does not exist.

Africa is a village and tribal society and sexual behavior is regulated by custom. It is necessary to investigate the sexual mores of each individual tribe and determine what specific and particular aspects of sexual custom makes the villages of that tribe vulnerable to HIV infection. This can be supplemented by antibody tests for syphilis which will suggest the pattern of venereal disease spread within the village(1). Once identified, the specific aspects of sexual custom which makes a whole village vulnerable to HIV can be modified by enlisting the efforts of the native healers and leaders. The effort to accomplish this program will be nowhere near as great as that required for a general sex education behavior modification program. Even in large cities, some aspects of village and tribal customs are maintained. Educational programs must intertwine their material with tribal ideas to make the sexual behavior change programs relevant to the people.

(1) Mann, GV et al: Survey of Serologic Evidence for Syphilis among the Masai of Tanzania: Public Health Reports (Washington), Vol 91, No. 6, June 1986, p 513-518.

F-36 NON TROPICAL AND TROPICAL AIDS ARE NOT SO PARADOXAL. F. VACHON, E. BOUVET, Cliniqu: de réanimation des maladies infectieuses. Hôpital CLAUDE BE' NARD 75944 PARIS CEDEX 19 - FRANCE.

In adults, AIDS is transmitted by sexual contact and parenteral exposures to contaminated blood. In occidental countries, it spreads epidemically among homosexuals and IV drug addicts and is sporadic among heterosexuals. In developing countries, especially in Central Africa, AIDS spreads epidemically among heterosexuals. Hypothesis is that occidental AIDS is a one group -one risk (sex or blood) illness. In poor tropical areas, the risk group is the large heterosexual population, which is a double risk group : sex and blood, the first being closely linked to venereal diseases and the latter because of common re-use without any sterilization of plastic syringes and needles, this fact being of major importance in antivenereal dispensaries. For this Sex-and-Syringe Transmitted Disease (SSTD), prophylaxis of epidemic spread requires there control of blood transfusions and simultaneous accent on safer sex and safer syringes.

F-37

ESSENTIAL DRUG POLICY IN AFRICA AND HIV INFECTIONS.

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GEEP - Service des maladies infectieuses - CK. VILLENEUVE ST GEORGES, 94190, FRANCE.

In Africa, HIV infections are spreading fast. Initially restricted to Central Africa, they are extending to all strates on the continent. Transmission is mainly heterosexual.

The situation has a dual impact on essential drug policy:

1 - on the drugs used to treat AIDS

- via a growing increase in conventional essential drugs consumption (COTRIMOXAZOLE - ANTITUBERCULOUS AGENTS).

- via prescription of new anti-infectious agents that may be difficult to use in Africa due to high prices, toxic effects and/or method of administration (RETROVIR, DHPG, ROFERON,...). Certain new drugs could advantageously replace the older conventional products (FLUCONAZOLE versus ANPHOTERICINEB...). Prolonged use may also cause compliance problems.

2 - on essential drugs

- essential drugs generally administered parenterally (quinine, penicillin): probable transmission route, especially in children, so restricting indications.

- blood transfusion: high transmission risk necessitating the setting up of expensive blood and blood derivative screening and storage facilities.

- vaccines: not so much administration by vaccinoject or disposable syringe but the type of vaccination: live vaccines (yellow fever, oral poliomyelitis, BCG, measles, smallpox) and, in the future, the vaccine virus used as a carrier for the vaccinating gene (hepatites B, malaria, etc.).

Thus, the upread of HIV infection epidemic will undoubtedly modify essential drug policy in Africa, not only as regards the list of these drugs but also regards their indications.

F-38

COMPARISON OF SIX ANTI-HIV ELISAs WITH ZAMBIAN SERA

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The first generation of anti-HIV ELISAs gave an unacceptably high number of false positives, especially with African sera. In a study to identify suitable tests for Africa, sera from Zambians with clinical diagnosis of AIDS, ARC or sexually transmitted diseases were tested with six ELISAs: (i) H9/HTLV-3 (German Primate Centre), (ii) ELAVIA (Pasteur). (iii) Enzygnostic (Behring), (iv) Wellcozyme (Wellcome), (v) env-80, using as antigen a synthetic polypeptide homologous with part of gp41 (Hoffmann-La Roche), and (vi) HIV-EIA Roche, using as antigen a synthetic polypeptide homologous with parts of gp41 and p24 in a hybrid molecule (Hoffmann-La Roche). Results from immunoprecipitation with antigen from H9/HTLV-3 cells were the final criteria of true positivity: anti-HIV was confirmed in 20 of 108 sera.

The first generation test, H9/HTLV-3 ELISA, showed the expected poor specificity (64%). Specificity of ELAVIA (95%) and Enzygnostic (98%) were better, but false positives were still recorded. There were no false positives with Wellcozyme, env-80 or HIV-EIA Roche. H9/HTLV-3 ELISA had 100% sensitivity, but this was reduced to 90-95% in all other tests. One serum reacted only with H9/HTLV-3 ELISA and was found to show anti-gp120 alone on immunoprecipitation: the patient was probably in an early stage of seroconversion.

Wellcozyme, env-80 and HIV-EIA Roche are recommended for use in Africa as being highly specific. ELISAs based on synthetic antigens have potential for development to improve sensitivity without loss of specificity: future tests based on single antigens could have value in assessment of prognosis.

F-39**COMPARISON OF COMMERCIAL ELISAs FOR DETECTION OF HIV ANTIBODIES IN EAST AFRICAN SERA**

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**Muhimbili Medical Centre, Dar es Salaam Tanzania.

Sera from 535 blood donors collected in 1986 in Dar es Salaam, Tanzania were screened for antibodies to HIV by five different commercial ELISA-kits (Organon, Wellcome, Abbott, Pasteur and Du Pont). All ELISA positive samples were tested by Western blot (WB) analysis using HIV-11B virions as antigen and/or Western blot strips from Du Pont. Many ELISA positive sera were also tested by radioimmuno-precipitation (RIPA). 39 sera were confirmed positive by WB and/or RIPA, with reactions against gp 41 and/or gp 160-120. The ELISA results of these 39 sera were: Organon-low cutoff 35 positive (90%), Organon-regular cutoff 29 (74%), Wellcome 34 (87%), Abbott 32 (82%), Pasteur 35 (90%) and Du Pont 37 (95%). ELISA positive reactions without definite confirmation by WB or RIPA were found in: Wellcome 1 serum, Pasteur 3 sera and Du Pont 23 sera. 18 of these 23 Du Pont-ELISA positive sera showed more than one WB-band, mostly some of the bands p15, p24 and p55. These reactions may be due to early specific antibodies, crossreactions with another retrovirus or non-specificity.

None of the five ELISA-kits gave positive reactions with all HIV positive sera. The Du Pont-ELISA was the most sensitive, but it also gave the largest number of non confirmed positive reactions.

F-40**A Rapid Enzyme Immunoassay for the detection of antibodies to Human Immunodeficiency Virus (HIV).**

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Assays for antibodies to Human Immunodeficiency Virus (HIV) are used routinely to screen blood to prevent the spread of AIDS. These assays are long, usually greater than 1 1/2 hours, require sophisticated instrumentation, precision pipets and water baths. A rapid (less than 15 minutes) assay for HIV antibodies has been developed requiring no pipets, no instrumentation and no water baths. Results are read visually with a plus (+) sign for positive samples and a minus (-) sign for negative samples.

Initial results showed 100% correlation with a licensed screening assay when 100 serum and 100 plasma samples were assayed. Dilution studies showed the rapid assay and the licensed screening assay detected HIV antibodies within one dilution of each other. This rapid assay is ideal for stat blood screening including emergency room testing and organ donor testing, as well as small laboratories and physician's offices.

F-41 Evaluation Of An Improved Anti-HIV-1 EIA Screening Test Using Recombinant p24 And p41 Proteins.

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Current anti-HIV-1 screening tests use disrupted viruses produced in tissue culture for assay production. Clinical results with these tests indicate a significant number of false positives arising from cross-reactivity to contaminating tissue culture antigens. Our laboratory has cloned the two major immunological proteins from HIV-1. One clone contains the complete gene for gag protein p24 along with segments of p17 and p15. The second clone contains the complete gene for envelope protein gp41 and a segment at the 3' end of gp120. These purified proteins have been used to develop an improved anti-HIV-1 screening assay. The new test has low cross-reactivity with nonspecific problem samples found with current assays. Clinical results with normal blood donor populations indicate a reactive rate of 0.16 % (32/20,125). The use of purified proteins has enabled us to make a much more sensitive assay. Data will be presented demonstrating detection of early seroconversion specimens and improved detection of serial dilutions of positive specimens. Details of assay format, clinical results, problem sample testing and sensitivity testing will be presented.

F-42 VALUE OF SECOND-GENERATION ANTI-HIV EIAs FOR THE EARLY DETECTION OF HIV-INFECTIONS
P. Nico Lelie and Henk W. Reesink, Central Laboratory of the Netherlands Red Cross Bloodtransfusion Service, Amsterdam, the Netherlands.

From 15 individuals, 3-monthly serum samples were available around the time of serum conversion for anti-HIV. These sequential sera were tested with first- and second-generation EIAs (Wellcome and Abbott) a Western Blot (WB) assay (Biotech, Dupont) and a HIV-Ag test (Abbott). Both second-generation EIAs detected anti-HIV 3 months earlier than first-generation EIAs in 8 of the 15 (53 %) individuals. The second-generation EIAs were of about equal sensitivity as the WB-assay, but in one individual the second-generation EIAs were positive 3 months earlier than WB. Although in 2 patients the HIV-Ag test appeared to be positive 3 months earlier than the first-generation EIAs, the second-generation EIAs were found to be positive at the same time as the HIV-Ag test. At the time of serum conversion for HIV-antibodies, in the WB a reactivity against p24^{gag} as well as gp 160/120^{env} encoded proteins were observed in all 15 individuals, as described before (Lancet 1987; i: 632).

We conclude that second-generation EIAs are considerably more sensitive than first-generation-EIAs, resulting in a significantly earlier detection of HIV-infections in patients.

F-43 COMPARISON OF CONFIRMATORY EIA TESTS AND WESTERN BLOT FOR ANTI-HIV.

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*Blood Transfusion, **Medical Computing departments, University of Liège, Liège, BELGIUM.

Second generation EIA confirmatory tests now available are based on the principle of competitive assay with beads coated with DNA recombinant derived HIV CORE and ENVELOPE antigens.

342 specimen sera divided into positive, negative and doubtful Western Blot patterns (according to the CDC's criteria) were submitted to EIA confirmatory tests for HIV antibodies.

By applying a logistic discriminant analysis to our experimental data, a "likelihood ratio" (L) was computed. This parameter accounting for the results of both tests simultaneously is expressed by the following equation:

$$L(\text{CORE}, \text{ENV}) = 2.67 \text{ TR}(\text{Core}) + 2.72 \text{ TR}(\text{Env}) - 9.13$$

The experimental data collected in our study suggest that the CORE test is less sensitive than the ENV test (CORE sens. = 86.8 %; ENV sens. = 93.9 %). Calculation of the L function for each test individually results in an improvement of the CORE test sensitivity to 95.9 %, without significant modification of the ENV test characteristics.

Furthermore, the distribution of L(CORE, ENV) values for WB negative and WB positive sera are currently separated (sensitivity = specificity = 100 %), while TR values of individual tests yielded a grey zone of overlapping of these two populations.

As a conclusion of our study, we recommend the calculation of L(CORE, ENV) values that are highly correlated with Western Blot results and that consistently improve the predictive value of the competitive EIA test as confirmatory method for the diagnosis of HIV seropositivity.

F-44 COMPARISON OF 3 FIRST-GENERATION, 3 SECOND-GENERATION AND 3 CONFIRMATORY ASSAYS FOR ANTI-HIV DETECTION

P. Nico Lelie, Henk W. Reesink and Johan G. Huisman, Central Laboratory of the Netherlands Red Cross Bloodtransfusion Service, Amsterdam, the Netherlands.

Three commercially available second-generation enzyme immuno assays (EIAs) (Abbott; Organon; Wellcome) and three confirmatory tests (Western Blot, Biotec, Dupont; CIA, Abbott, and a RIPA developed in our institute) for the detection of antibodies against HIV were evaluated in a large serum panel (n=6500 sera) originally used for the validation of 6 different first-generation EIAs, (Lancet 1986; ii: 483-6). The second-generation EIAs were found to be significantly more sensitive than the first-generation EIAs, as was demonstrated by testing serial dilutions of sera from AIDS patients, asymptomatic carriers of anti-HIV and of sera of patients who were in an early stage of HIV-infection. The three confirmatory tests were of different sensitivity for the identification of specific HIV-envelope and HIV-core antibodies in sera obtained during different stages of HIV-infection. However, in the Western Blot a relatively high frequency of HIV associated reactivities (anti-p24) were observed, that appeared to be false-positive. Practically no false-positive reactions were observed in the second-generation EIAs, as demonstrated in blood donor sera and in a "tricky" serum panel derived from patients with different diseases, e.g. auto-immune diseases.

We conclude that second-generation EIAs and the confirmatory assays evaluated are all of great practical value for the identification of HIV-infections.

F-45**RAPID, EASY, AND ECONOMICAL SCREENING TEST FOR ANTIBODIES TO HUMAN IMMUNO-DEFICIENCY VIRUS(HIV)**

James R. Carlson, JoAnn L. Yee, E. Watson-Williams, Myra B. Jennings,
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We have developed a new enzyme immunoassay (Dot EIA) using HIV antigen derived from E. coli HIV envelope protein, peptide 121 (Centocor, Malvern, PA), that is easy to perform, rapid (30 minutes) and has good sensitivity and specificity using serum, plasma, whole blood or saliva. The test can be performed on many or few specimens, is stable at room temperature for prolonged periods, requires no instrumentation and is economical.

Serum, plasma, whole blood, or saliva from more than 700 subjects was tested in the Dot EIA. With serum or plasma from the USA, a 99.2% agreement was observed between the Dot EIA and Western blot. An agreement of 97.7% was observed with serum or plasma from foreign sources. With whole blood, an agreement of 98.3% was observed and with saliva, an agreement of 97.7% was observed between the Dot EIA and Western blot testing of contemporaneous sera. The discrepant results were false positives.

Results with the Dot EIA compare favorably with conventional serology methods. This study demonstrates the utility of the Dot EIA for both blood product screening and initial clinical assessment.

F-46**The Wellcozyme HIV Monoclonal Test Kit**

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The Wellcozyme HIV Monoclonal kit is a commercial ELISA for detecting HIV antibodies. The screening test is based on a competitive ELISA principle and utilises an independent British isolate of HIV. The kit has advantages of speed (results in 1.5 hours), simplicity (no pre-dilution of sample either in or out of the assay wells, simultaneous incubation of sample and conjugate, only one wash stage) and specificity. The performance of the test will be illustrated, with particular reference to early seroconverters, and the novel chemical and biochemical mechanisms underlying the assay described.

F-47 DETECTION OF ANTIBODIES TO HIV-2 (LAV II) IN GERMAN AND AFRICAN PATIENTS BY INDIRECT IMMUNOFLUORESCENCE.

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The human immune deficiency virus type 2 (HIV-2) obtained from Dr. L. Montagnier was cultivated in different T-cell-lines (CEM, Molt-4). Using the indirect immunofluorescence-technique sera of 227 patients with well documented HIV-1 infections were tested for anti-HIV-2 antibodies. Positive reactions were found in 2.6%. However on adsorption of these serum samples with HIV-1 infected cells the positive anti-HIV-2 reactions turned negative. Using our adsorption method to control the specificity of the anti-HIV-2 antibody detection true positive reactions were only found in subjects from Africa. Our results with 2300 African sera show that a relatively low percentage of anti-HIV-2 antibodies (0.3%) is found in different parts of Africa including cities with high prevalence of anti-HIV-1 antibodies.

F-48 SEROLOGICAL PROFILES OBSERVED WITH HIV-1 AND/OR HIV-2 POSITIVE WEST-AFRICAN SERA IN A NEW STRIP ELISA USING HIV-1 RECOMBINANT ANTIGENS (RIBA-HIV 216, ORTHO DIAGNOSTIC SYSTEM).

G. Léonard¹, M. Verdier¹, F. Denis¹, M. Mounier¹, A. Calvo², A. Sangaré³, G. M. Gershy-Damet³, M. Prince-David⁴, F. Barin⁵. 1 CHU Dupuytren, Limoges, France, 2 Ortho diagnostic systems, France, 3 Institut Pasteur Abidjan, Côte d'Ivoire, 4 Université de Dakar, Senegal, 5 CHU Bretenneau, Tours, France.

A new strip ELISA using recombinant proteins of HIV-1 (p24, p31, gp41 and gp120) coated on nitrocellulose strips has been evaluated with 87 West-African sera positive for antibody (Ab) to HIV-1 or HIV-2 or both. Serotype specificity was previously assessed by Western blotting using HTLV III_B (HIV-1) coated strips and HTLV-IV P289 (HIV-2) coated strips. 34 sera were positive for antibody to HIV-1, 25 sera were positive for antibody to HIV-2 and 28 sera were positive for antibody to both viruses. The preliminary results, summarized in the table, are expressed in percentage of positivity for every recombinant HIV antigen (Ag).

Recombinant Ag	Sera positive for Ab to HIV-1	Sera positive for Ab to HIV-2	Sera positive for Ab to both viruses
p24	100	76	100
p31	91	60	89
gp41	97	16	100
gp120	27	0	36

F-49**ASSESSMENT OF A RAPID HIV LATEX AGGLUTINATION TEST IN ZAIRE**

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Recent discoveries in HIV serologic testing have produced several different methods of rapid HIV antibody detection systems. Assessment of one of these rapid, easy to use assays, a latex agglutination, was performed on 365 blood donors (144 males and 221 females, mean age 30), and 652 children (296 males and 356 females, mean age 1 year), to evaluate its sensitivity, specificity, and simplicity, using either serum or whole blood. Two hundred and sixty-seven (26%) of the patients were repeatedly reactive by ELISA (Wellcome) and confirmed by Western blot. Using serum diluted 1:10 or whole blood diluted 1:10 the latex assay was 99% sensitive and 99% specific. However, when whole blood was used, the sensitivity decreased to 94% but the specificity was 100%. The latex agglutination assay was found to be rapid, 2-5 minutes to get results, sensitive and specific, as well as easy to use. The simplicity and flexibility of the latex agglutination assay make it a useful assay to use in developing countries where rapid accurate results without the use of expensive diagnostic machinery is essential.

F-50**PASSIVE HEMAGGLUTINATION ASSAY FOR HIV ANTIBODY SCREENING**

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A passive hemagglutination HIV antibody screening assay (HIV-PHA) has been developed using aldehyde-fixed human erythrocytes (Duracytes) which have been passively coated with purified HIV viral antigens. Such coated duracytes when mixed with serum specimens containing antibody to HIV, will form complexes visibly different from those serum specimens which do not contain antibody. Such complexes are easily distinguishable upon settling in ordinary microtitration tray V-wells, and can be graded on a relative scale of negative (-) or + to 4+ as positive. Preliminary testing of a panel of 171 seropositive specimens from AIDS, ARC, and asymptomatic categories, at a 1:75 specimen dilution showed that all (171/171) tested positive at a 1+ or greater reaction. Testing of a "normal donor" specimen pool of 870 revealed an initial reactive rate of 2.3%. Repeat testing of these initial reactives revealed a repeatable reactive rate of 1.15%. Endpoint titrations of several HIV-seropositive specimens demonstrated a sensitivity of the HIV-PHA test equivalent to Abbott's second generation EIA screening test. The sensitivity, low cost, ease of use, coupled with the ability to prepare lyophilized reagents make the HIV-PHA assay a candidate for HIV-antibody screening in third world locales.

F-51 COMPARISON OF FOUR FAST, VISUAL AND MANUAL ASSAYS FOR THE DETECTION OF HIV ANTIBODIES IN HUMAN PLASMA OR SERA
Raymond L. Cybulski, William R. Pagels, Celia M. Crane, and J. Phillip Galvin, Medical Products Dept., E. I. Du Pont de Nemours and Co., Inc., Glasgow Research Laboratory, Wilmington, DE 19898, USA.

Commercially available assays for the detection of HIV antibodies generally utilize ELISA technology and require 1.5 to 4 hours to perform. In addition, they require some technical expertise and expensive equipment. Four assays have been evaluated which are simple to perform, utilize visual endpoints and provide results in less than 40 min.

The assays are:

- an immunofiltration assay which uses HIV lysate on a nitrocellulose support as the capture phase and a colloidal gold conjugate for detection.
- a dot blot assay using recombinant proteins bound to nitrocellulose for capture and an enzyme-linked conjugate for detection.
- a latex agglutination test which uses a recombinant protein bound to the polymer beads.
- an ELISA procedure using viral lysate bound to a porous plastic support.

A description of each assay format will be presented as well as a discussion of their individual strengths and weaknesses. This will include facilities, technical expertise, and time required to perform the assays. Data will also be presented comparing the sensitivity and specificity of the assays.

These results will provide an overview of the types of assays that are available for rapid testing and may be of value to underdeveloped countries for screening of blood donors.

F-52 ESTIMATION OF HUMAN IMMUNODEFICIENCY VIRUS (HIV) ANTIBODIES IN WHOLE BLOOD COLLECTED ON FILTER PAPER AND IN SERUM FROM WHOLE BLOOD OBTAINED BY VENOUS PUNCTURE.
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We have previously shown that HIV antigens can be detected in the majority of HIV-antigen-positive persons in eluates of a few drops of blood, collected and left to dry on filter paper.

In the present study HIV antibodies were estimated in eluates of blood on filter paper, and the results were compared with similar estimations on the corresponding serum samples.

The dried blood spots were cut out of the filter paper and eluted with phosphate buffered saline + Triton x-100. HIV-antibodies in the eluates and in the serum samples were estimated by a non-commercial indirect ELISA method, previously described. Of the 19 patients with clinical AIDS 18 had HIV-antibodies, both in eluates of filter paper blood and in serum. One of the 39 controls had HIV antibodies both in filter paper blood and in serum. There was thus a 100% correspondence between results obtained from eluted blood and serum. The filter paper method is a useful and cheap way of obtaining blood for HIV-testing when only small amounts of blood can be obtained (e.g. in children) and when storage and transport present problems.

EPIDEMIOLOGY OF HIV INFECTIONS IN ITALIAN ARMY SOLDIERS

Ten. Gen. me G. Cucciniello, Col. me M. Di Martino, Magg. re M.S. Peragallo, Cap. me P. Astorre, Cap. me G. Sarnicola, Comando dei Servizi Sanitari dell'Esercito, Roma, Italia.

Among Italian Army soldiers admitted to Army Hospitals from January the 1st 1986 to June the 30th 1987, 93 patients were identified as carriers of HIV infections. The seropositivity was detected by enzyme-linked immunosorbent-assay (ELISA) and confirmed by Western-blot. Among the recognized risk groups, the infected soldiers were so distributed:

	No Syntoms†	LAS	ARC
Intravenous drug abuser	32	38	7
Unknown risk factors	5	11	0

† Data carried out without any systematic evaluation.

The following clinical and immunological data were detected among 20 patients: lymphocyte count and platelet count, T-cell subset (CD4 helper/inducer T cells, CD8 suppressor/cytotoxic T cells), total immunoglobulins, IgG, IgA, IgM, serologic tests for hepatitis B virus, Hepatitis delta virus, Cytomegalovirus, Epstein-Barr virus, Toxoplasma gondii, Syphilis, circulating immune-complexes, skin tests (multitest).

The patients were evaluated by the diagnostic criteria proposed by the Center for Disease Control (1986) and by the Walter Reed Army institute of Research. According to the CDC clinical classification (1986), the 93 patients were so distributed:

Group 1: 37 patients, group 2a: 14 patients, group 2b: 4 patients, group 2c: 31 patients, group 3a: 6 patients, group 3b: 1 patient.

The major risk factor was the intravenous drug abuse (83 % of all reported cases), even though the drug abuse was interrupted before the onset of clinical manifestations. The spared patients (17 %) did not declare known risk factors for HIV infection.

SEROLOGICAL EVIDENCE THAT HTLV-1 IS PRESENT AMONG BELGIAN BLOOD DONORS

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Recent reports have shown high or increasing prevalence of HTLV-1 in specific groups living in Western Europe, particularly immigrants from Surinam in Netherlands and intravenous drug abusers in Italy. Moreover HTLV-1 can be transmitted via blood or blood products. For these reasons we tried to determine the prevalence of HTLV-1 antibody in Belgian blood donors. Antibody testing was performed with commercially available Elisa (Du Pont); specificity of reactivity was confirmed by Western Blot (Du Pont).

87/1152 sera were found positive in the screening assay, but only 9 of 87 were confirmed in the Western Blot assay (0.8 %). The HTLV-1 antigen detected by the positive sera was always p19. This low percentage is similar to that observed among blood donors from USA or Denmark. Since there are, at the present time, insufficient data to determine the degree of public health risk for patients receiving blood from seropositive donors, systematic screening should not be recommended actually in Belgium. No clinical disease related to HTLV-1 was observed among these 9 subjects, but in view of the long latency period observed before development of leukemia, possibly 20 years, long term investigations will be required.

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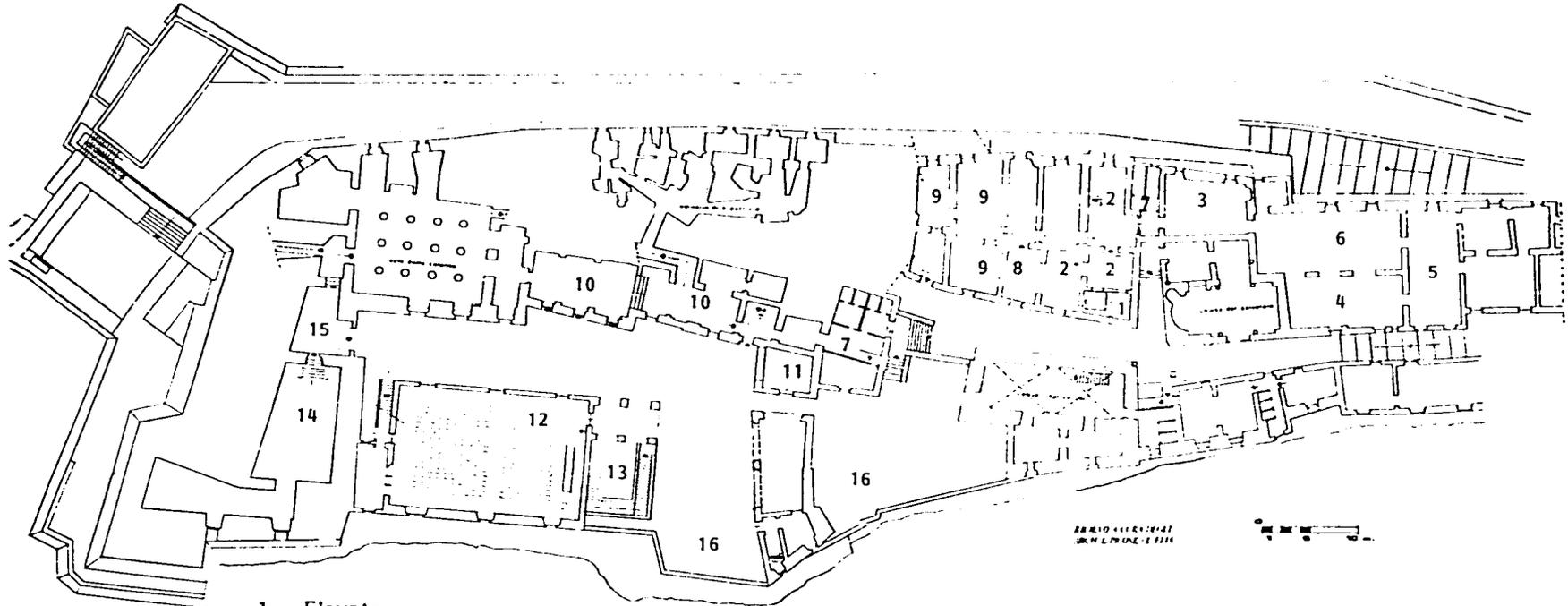
Y

YALA F. , TH30,TH31,TH32,S2.4
YANKALBE P.M.M. , S10.4
YARCHOAN R. , TH61
YEE J.L. , F45

Z

ZACHAR D. , S8.2
ZAGURY D. , S8.1
ZANETTI A.R. , F7
ZARRILLI D. , TH88
ZECH F. , TH63
ZEHENDER G. , TH36,TH38
ZEKENG L. , S4.2
ZISSIS G. , S5.1
ZIZZIS G. , F6
ZOTTI C. , TH51
ZOUHOU I. , TH19

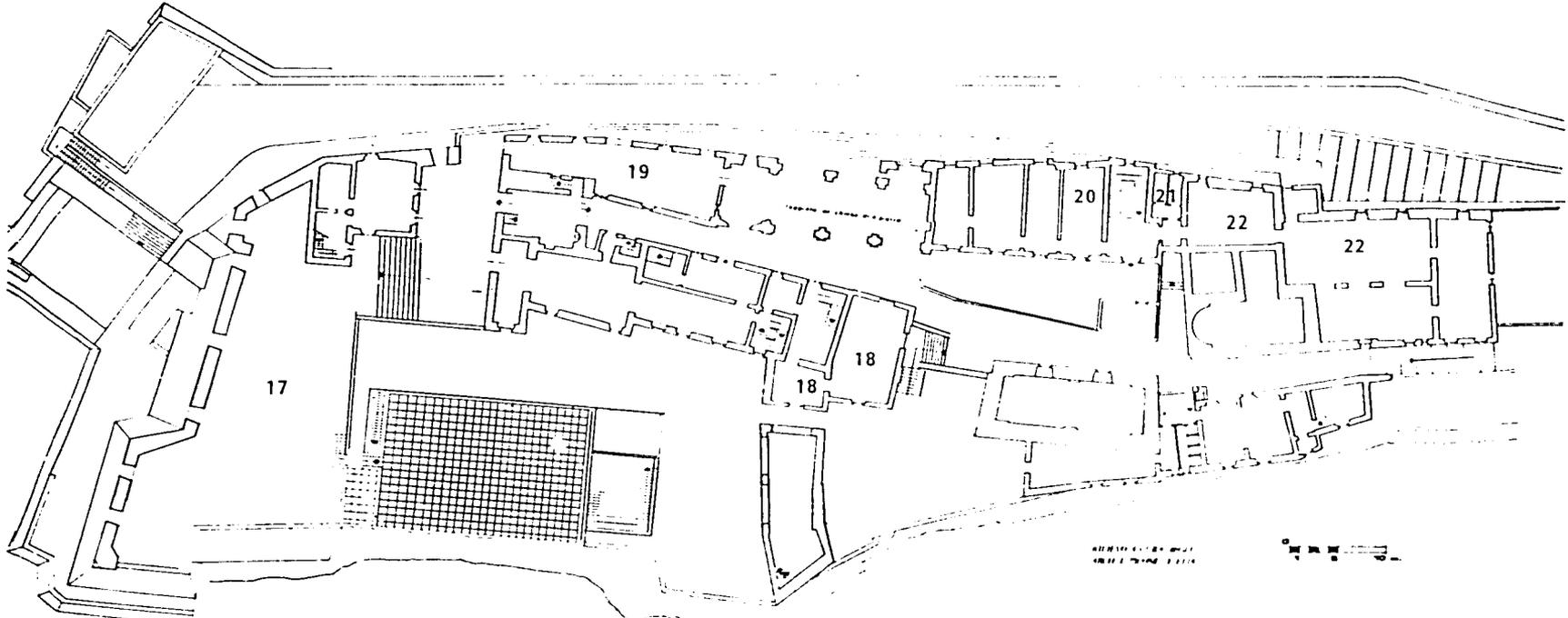
1st FLOOR



- 1 Elevators
- 2 Entrance
- 3 Meeting Point
- 4 Poster Session
- 5 Secretariat - Registration Area
- 6 Display Area
- 7 Toilets
- 8 Telephones

- 9 Press Support Area
- 10 Exhibition Area
- 11 Slide Center
- 12 Hall A - AUDITORIUM
- 13 Hall B - VIDEO OVERFLOW ROOM
- 14 Hall C - PRESS only / VIDEO
- 15 Distribution of Ear-phones
- 16 Coffee Break Area

2nd FLOOR



- 17 Upper Terrace
- 18 Wellcome Hospitality Suite
- 19 Press Conference Room
- 20 Small Conference Room
- 21 Toilets
- 22 Faculty Room