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ANESTHESIA PRACTICES FOR STERILIZATION OPERATIONS IN BANGLADESH

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This report was prepared by John I. Fishburne, Jr., M.D., Professor of Obstetrics and Gynecology, Associate Professor of Anesthesiology, and Chief of Maternal and Fetal Medicine, Bowman Gray School of Medicine, Winston-Salem, North Carolina. Special qualifications for this assignment included Board Certification by the American Board of Anesthesiology, and the American Board of Obstetrics and Gynecology and its subdivision, the Board of Maternal and Fetal Medicine.

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EXECUTIVE SUMMARY

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The author was invited to visit Bangladesh to assess anesthesia practices for sterilization operations. The invitation was tendered because of five recent anesthesia-related deaths in patients undergoing tubectomies.

Two previous studies suggested that these deaths were related to anesthesia overdosage. They indicated that the primary method of anesthesia for tubectomy operations in Bangladesh consisted of systemic analgesia and sedation plus local infiltration anesthesia. Systemic medications included intramuscular and/or intravenous Meperidine (Pethidine), 50 to 100 mg.; Promethazine (Phenergan), intramuscular or intravenous, 50 mg.; and Diazepam (Seduxen), 10 mg., intravenous at the time of the operation. Local anesthesia was obtained with 1 percent lidocaine (Xylocaine) solution injected subcutaneously.

In addition, the previous investigators recognized that resuscitation equipment was in scarce supply throughout Bangladesh.

The author visited several government and Bangladesh Association for Voluntary Sterilization (BAVS) clinics, and observed 11 tubectomy operations and one vasectomy. The anesthetic techniques described above were used and often resulted in initial general anesthesia. In most cases, the general anesthesia was short-lived and the aroused patients complained of pain during manipulation of the Fallopian tubes. Because they were heavily sedated, the patients were unable to react rationally to pain and had to be held down so that the surgeon could continue the operation. In most procedures observed by the author, four holders, in addition to the surgeon and his assistant, were present in the operating room.

Very little anesthesia monitoring was done. Occasionally, the pulse was counted; less frequently was it recorded. Little effort was made in most instances to measure and record respirations and blood pressure.

The BAVS clinics appeared, for the most part, to have adequate resuscitation equipment, but in no government clinic were these devices present.

The author visited Sir Salimullah Medical College, in Dacca, where he met with Dr. Rasul, Chairman of the Anesthesiology Department, and Dr. Jabeen, Chairman of the Department of Obstetrics and Gynecology. It became apparent that, despite the commitment to an intensive training program for Thana medical officers, insufficient attention is given to anesthesia and resuscitation in the curriculum.

Before leaving Bangladesh, the author met with officials of the Bangladesh Family Planning SErvices and a [illegible]d anesthesiologist who participated in discussions of recommendations to improve anesthesia practices. In general, these recommendations related to:

1. **Medications**

The basic recommendation was to use oral Diazepam for premedication and, immediately before the operation, smaller doses of intravenous Meperidine and Promethazine. Emphasis should be placed on the technique of local anesthesia so that an adequate block would be administered, thus decreasing the reliance on general analgesia and sedation. It also was recommended that drugs to reverse narcotic overdosage be made available in every operating room where tubectomy procedures are performed. Furthermore, resuscitation drugs and apparatus should be procured and distributed to all operating facilities.

2. Monitoring

Improved practices for pre-operative, intraoperative, and postoperative monitoring of the patient were suggested.

3. Training

A curriculum was described which, if followed, would enhance the training of family planning doctors.

These preliminary recommendations were left with Bangladesh family planning officials in the hope that their implementation might lead to improved safety and comfort for patients undergoing sterilization operations in Bangladesh.

I. INTRODUCTION AND BACKGROUND

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The need for an assessment of anesthesia practices for sterilization operations in Bangladesh became apparent when the results of a prospective study of sterilization procedures were released. Conducted with Center for Disease Control assistance, under a grant to the Bangladesh Fertility Research Program, the study was a nationwide survey of the complications of sterilization procedures. Funded by the Program for the Initiation and Adaptation of Contraceptive Technology, the study aimed to define the rates and types of complications experienced as a result of sterilization operations in Bangladesh.

Data generated at 41 sterilization centers were collected and analyzed by six field teams. Michael Rosenberg, M.D., M.Ph.,[1] visited Bangladesh from May 2-13, 1980, to evaluate the teams' collection of information on 2,569 tubectomies and 205 vasectomies. Three tubectomy deaths were detected with death-to-case rate of 11.7/10,000. All of these deaths were, apparently, due to respiratory complications. Government reports recorded 13 tubectomy and five vasectomy deaths, for a rate of 1.2/10,000 tubectomies and 2.0/10,000 vasectomies. In the total series, five deaths were attributed to respiratory failure; the cause of another five was unknown. The identified respiratory deaths occurred in Rangpur, Tangail, Dacca, and Khulna districts. Three of these respiratory deaths occurred in February 1980 (see Appendix B).

Because of suspected alterations in the potencies of the drugs used for systemic analgesia, the Food and Drug Administration conducted tests on various samples of Diazepam, Promethazine, Atropine, and Meperidine obtained from different sources in Bangladesh. Meperidine potency was within ± 5 percent of the labeled concentration, but Diazepam (Valium, Seduxen) varied between 100 percent and 90 percent. Diazepam produced in the Richter Laboratory varied from 90 percent to 100 percent potency and contained varying amounts of lidocaine (2.9 mg. to 3.5 mg.) and three unknown contaminating compounds.

During his visit, Dr. Rosenberg also evaluated emergency equipment on hand in centers where sterilization procedures are performed. Intravenous fluids and administration sets were present in only 51 percent of the units, narcotic antagonists in 43 percent, oxygen and masks in 38 percent, emergency airway and resuscitation bags in 35 percent, and laryngoscopes and endotracheal tubes in 6 percent. No figures were given for the availability of suction apparatus.

With respect to systemic analgesia, Dr. Rosenberg stated: "The current combination of drugs seems to lead to a marked respiratory depression in addition to powerful sedation. In addition to consideration of giving some or all of the drugs intramuscularly, a simple, clear guide to drug dosage should be developed based on height and body build and distributed to all sterilization centers. Another important component is to educate surgeons to the dangers of using large dosages of sedatives simply so that the patient will not move during the procedure."

To further define the problem, David A. Grimes, M.D., and Bert B. Peterson, M.D.,[2] visited Bangladesh in June 1980, and made an epidemiological study of the deaths that occurred in the sterilization program in Dacca and Rajshahi divisions between January 1, 1979 and March 31, 1980. These investigators examined the circumstances surrounding a total of 28 deaths (21 were tubectomy-related and seven vasectomy-related) in a total population of 131,131 cases, of which 108,605 were tubectomies and 22,526 were vasectomies. The death-to-case rate for tubectomy was 19.3 deaths per 100,000 procedures; the rate for vasectomy was 31.1 deaths per 100,000 procedures. The relative risk for vasectomy was 1.6 times that for tubectomy.

Grimes and Peterson identified deaths primarily through government records of compensation to families of deceased sterilization patients. They also reviewed reports of deaths in Bangladesh Association for Voluntary Sterilization clinics and of deaths detected in a review of a prospective study of sterilization in Bangladesh conducted under the auspices of the Ford Foundation and the Center for Disease Control. In addition, these investigators conducted intensive case-finding efforts throughout Dacca and Rajshahi divisions. The three most common identified causes of death were anesthesia overdose, tetanus, and intraperitoneal hemorrhage. Anesthesia overdose was identified as a probable cause of death in 29 percent of the cases, tetanus in 24 percent, and intraperitoneal hemorrhage in 14 percent of the cases. Other causes of death, such as pulmonary embolism, anaphylactic reaction, malignant hyperthermia, small bowel obstruction, and aspiration of vomitus accounted for 29 percent of the cases.

A seasonal variation also noted was: The highest death-to-case rate for all sterilization procedures occurred between April and June of 1979, a time when a record heat wave gripped the country. The death-to-case rate at this time was 47.9 deaths per 100,000 procedures. Infection was a prominent cause of death. A case of malignant hyperthermia/heat stroke also occurred during this period. The second highest peak, 25 deaths per 100,000 procedures, was reported for the period January to March 1980. Anesthesia-related deaths figured prominently at this time.

In their report, Grimes and Peterson noted that all surgeons who were interviewed claimed to be using "local anesthesia with sedation." This, of course, implies that patients are awake but relaxed and tranquil. The investigators' experience in observing procedures, however, indicated that the patients were unconscious during the operation and indeed appeared to be very heavily sedated. As Dr. Rosenberg noted, the mean weight of the tubectomy clients was 40 kilograms, and these patients received as much as 100 mg. of Meperidine, 50 mg. of Promethazine, and 10 mg. to 20 mg. of Diazepam. All of these drugs were administered intravenously. Grimes and Peterson observed five patients undergoing tubectomy. In no instance was the patient conscious during the procedure. In fact, two of the five patients were thought to be in Anesthetic Stage II, and three in Anesthetic Stage III, or general surgical anesthesia. The investigators noted that resuscitation equipment was not generally available. In addition, little effort was made to monitor the patient during the surgical procedure. In fact, the team observed that "in three tubectomy cases the surgeon unknowingly operated on a patient who was already dead."

Purpose of Assignment

Because of the recent cluster of anesthesia-related deaths during tubectomy and the apparently improper methods of administration of analgesic and sedative medications, the author was asked to continue the assessment of surgical facilities and anesthetic techniques and to make recommendations to reduce the danger of "local anesthesia with systemic analgesia" for tubectomy.

Itinerary

The author arrived in Dacca, Bangladesh, at 5:30 a.m. on July 23, 1980. He reported to the USAID Mission and was met by Carol Carpenter-Yaman, Ph.D., M.Ph., and Mr. John Dumm. After a short briefing, the consultant visited Azizur Rahman, M.D., head of the Bangladesh Association for Voluntary Sterilization, a private organization funded by IPADS. BAVS operates a network of 22 voluntary sterilization clinics throughout Bangladesh. Copies of the BAVS Medical Supervision Plan, Handbook of Medical Standards, and Handbook on Medical and Surgical Emergencies are attached as Appendices C, D, and E, respectively.

The consultant next visited the main BAVS clinic in Dacca. It is located across the street from the BAVS headquarters. Approximately 600 to 700 sterilization procedures are done each month in this facility. Dr. Salahuddin Ahmed is the director of the clinic. Since the clinic's opening in 1975, 29,605 tubectomies and 8,992 vasectomies have been performed. At the time of this visit (July 23, 1980), 12 clients were scheduled for tubectomy operations. Two procedures were observed. (Sample admission records used in BAVS clinics are included in Appendix F.)

On July 24, the author visited Sir Salimullah Medical College in Mitford Hospital, Dacca. He held lengthy conversations with Dr. Suraiya Jabeen, Chairman, Department of Obstetrics and Gynecology, and Dr. Shafiqur Rasul, Associate Professor of Anesthesiology. The education program for general practice physicians receiving fertility control training was explored in detail. (The lecture schedule is included in Appendix G.) During the ensuing conversation, Dr. Rasul indicated that while practicing in Chittagong, he had managed 30 cases of respiratory depression during tubectomy. He agreed that narcotic antagonists, resuscitation bags, and airways should be standard equipment in all operating rooms where tubectomies are performed.

On the afternoon of July 24, the consultant visited the BAVS clinic in Tongi, where he watched one tubectomy and one vasectomy being performed. Dr. Salahuddin Ahmed accompanied the author on this trip. The director of the clinic is Dr. Najim Huddin Ahmed. Dr. Ahmed stated that in May 1980, 48 tubectomies and two vasectomies had been performed; in June 1980, 51 tubectomies and nine vasectomies were done. The peak month in 1980 was February, when 820 tubectomies and 63 vasectomies were performed. The one-year total, as of June 1980, was 3,371 tubectomies and 633 vasectomies.

On July 25, the author visited Atiqur Rahman Khan, Director of Family Planning Services. Dr. Khan will soon become a member of the Planning Commission, and Dr. Nargis Akhter will, presumably, replace Dr. Khan. The problems related to the administration of analgesia for tubectomy were discussed at length. It was agreed that a meeting of Dacca anesthesiologists should be convened to discuss the problem and to make recommendations, particularly recommendations on the design of a curriculum for anesthesia training of family planning officers. Dr. Nargis Akhter indicated that she had been preparing a manual for sterilization operations (a copy of this was made available to the author and is included as Appendix H). It was her wish that any recommendations for anesthesia forthcoming from this report be included in the Manual for Sterilization Operations. Furthermore, based on this report and given the consensus of opinion of Dacca anesthesiologists, a set of instructions on the administration of anesthesia should be prepared and distributed to all government sterilization centers. (Current directives and standards are listed in Appendix I.)

Dr. Khan indicated that Naloxone (Narcan) had been ordered and that it was expected that five ampules would be supplied to each center for addition to the emergency tray. He further indicated that requisitions had been placed for 400 resuscitation bags and resuscitation instructional charts.

On July 26, the author visited the Thana Health Complex at Chandina. The complex is supervised by Dr. Gyasuddin Ahmed. Dr. Ahmed reported that 21 tubectomy procedures had been performed in January 1980, 42 in February, 20 in March, none in April, seven in May, 13 in June, and 10 as of July 1980. No deaths had been recorded, and only minor infections had occurred. The operating room was inspected and the oxygen cylinder was noted to be empty. No resuscitation bag and no suction apparatus were present.

The government sterilization center in the town of Comilla also was visited. The consultant interviewed the Deputy Director for the Comilla district, Ali Ahmed, and the Assistant Deputy, MCHFP, Dr. Jahir Uddin Ahmed. One tubectomy procedure was observed; it was noted that no oxygen resuscitation bag or suction apparatus was available in the operating theater. The available emergency drugs were cortisone, nikethamide, and epinephrine. No narcotic antagonist was on hand.

The patient's pulse and respirations were monitored during surgery and after the operation. Of the 11 tubectomy procedures observed by the author, this one proceeded most smoothly. The amount of analgesia administered did not appear to be excessive: The patient received 50 mg. of Pethidine and 50 mg. of Promethazine intramuscularly 30 minutes before surgery and 10 mg. of Diazepam (administered intravenously) while on the operating table. Following performance of the local anesthetic field block with 1 percent lidocaine, sufficient time was allowed for adequate local anesthesia to develop. Also, when the peritoneal cavity was entered, five additional ccs. of 1 percent lidocaine solution were administered into the pelvis, bathing the uterus and tubes. The patient did not vocalize or move significantly during the procedure, although she did respond to mild skin pain induced when the observer pinched her forearm.

The next sterilization unit visited was the BAVS unit in Comilla. Dr. Sayed Ahmed is the head of the clinic. The first physician is Dr. Mohammed Manirul Islam. The author learned that 122 tubectomies and five vasectomies were performed in this facility in January 1980. In February, there were 125 tubectomies and three vasectomies; in March, 88 tubectomies and six vasectomies; in April, 101 tubectomies and three vasectomies; in May, 14 tubectomies and two vasectomies; and in June, 64 tubectomies and one vasectomy.

The author observed two tubectomies performed by Dr. Islam. During a conversation at the clinic, Dr. Ahmed stated that it was his feeling that commercially acquired Pethidine was less potent than the Pethidine supplied by the government. He gave the author two ampules as samples to be tested by the FDA.

Next the Debidwar Thana Health Complex was visited. The Thana Health Officer is Dr. Tajul Islam; the medical officer is Dr. Lutfur Rahman. No records were available, but these physicians indicated that 40 to 50 tubectomy procedures had been performed each month, except in April and May, when no such operations were done because of the general strike. The operating room was examined, and was found to contain no resuscitation equipment. An old open-drop ether mask was seen. The author was told that occasionally open-drop ether was administered at the installation.

On July 28, the Baleswah MCH Center in Dacca district was visited. Dr. Shuikh Mahmood Aslam is the Thana Medical Officer. Dr. Aslam had received six years of training in the United States, four years at Texas A&M and two years at the University of California-Berkely, where he carried on work in vitamin research. Dr. Aslam holds a DVM degree.

Dr. Aslam indicated that 10 to 15 tubectomy procedures were done on each of three days each week. He indicated that he had performed over 3,000 tubectomies in the past three years. His operating room was visited, and it was noted that there was no electric power. Dr. Aslam had had the hospital wired at his own expense in the expectation that the government would provide the necessary electrical connections. A kerosene autoclave was present in a small room adjacent to the operating room. No resuscitation equipment was available.

On the final day of his visit, the author returned to the main BAVS clinic in Dacca to test his recommended analgesic regimens with the kind assistance of Dr. Sultana Begum, National Medical Director, BAVS.

Two patients scheduled for tubectomy participated in the trial. Premedication consisted of Diazepam (10 mg. p.o.), which was administered to both patients 45 minutes to 90 minutes before surgery. One patient weighed approximately 85 pounds, the other 100 pounds. Both were somnolent and relaxed on arrival in the operating theater. Pethidine (50 mg.) and atropine (0.6 mg.) were given intravenously in two increments. The somnolence increased, but the patients remained arousable and the lid reflex was maintained. The abdominal wall was infiltrated with 1 percent lidocaine in the first instance and 0.5 percent lidocaine in the second. The maximum dose was held below 200 mg. Skin,

subcutaneous tissue, fascia, and peritoneum were all infiltrated, and surgery was delayed three minutes to allow the block to set up. Both patients appeared to be comfortable until the peritoneum was opened. At this point, an additional 5 ml. of anesthetic solution were used to bathe the pelvic organs. There still appeared to be some degree of discomfort, although it was less than that witnessed previously when reliance was primarily on systemic analgesia.

Dr. Begum has agreed to undertake a clinical trial with 100 patients to evaluate intraoperative and postoperative patient response to these modifications in analgesia and local anesthesia.

Following the morning visit to the Dacca BAVS clinic, the author attended a meeting with Dr. Attiqur Rahman Khan, Director of Family Planning Services, Dr. Nargis Akhter, his presumed successor, Dr. Salahuddin Ahmed, Director of the Dacca BAVS clinic, and Dr. Khalilur Rahman, Associate Professor of Anesthesiology, Institute of Cardiovascular Diseases. The author's findings and recommendations were discussed at this meeting.

II. OBSERVATIONS

II. OBSERVATIONS

Preoperative Preparation

There seemed to be a great deal of variation in the preparation of the patient for surgery. In one BAVS clinic, extensive interviewing and screening took place, and a history taken, and a physical, including a pelvic examination, enema, and cleansing shower, performed. In other installations, the patient had only a superficial examination, and no effort was made to bathe the patient or change her clothes. In general, little effort seemed to be made to have the patient arrive for surgery in the fasting state.

Premedication

Almost without exception, premedication consisted of Meperidine (Pethidine), 100 mg., and atropine, 0.6 mg., administered intramuscularly 20 minutes to 45 minutes before surgery. Occasionally, the dosage of intramuscular Pethidine was reduced to 50 mg.

Operative Medications

In general, patients undergoing tubectomy were given Diazepam, 10 mg., and Promethazine, 50 mg., intravenously immediately before surgery. These medications were given without benefit of a continuous intravenous infusion. Invariably, after receiving the medications, the patient lost consciousness. The lid and corneal reflexes would disappear and respirations would become slow and shallow. In all 11 tubectomies witnessed by the author, there was a transient period of general anesthesia following the administration of these intravenous medications. In one instance, in addition to the above two drugs, 50 mg. of Pethidine were administered intravenously. This patient remained anesthetized throughout the procedure and did not move spontaneously at any point.

Local Anesthesia

The drug of choice for local anesthesia appeared to be lidocaine (Xylocaine), 1 percent. The dosage ranged from 100 to 200 mg. In general, 10 ml. were administered subcutaneously, with little effort to place the drug beneath the fascia to anesthetize the peritoneum. In almost all cases, when the fascia was divided and the peritoneum elevated, patients responded to pain by active motion of the extremities. Occasionally, there was also loud vocalization. In general, the surgery was begun almost immediately after infiltration of the local anesthetic solution and in only one instance was sufficient time allowed for a reasonable block to develop. In one instance, an additional 5 ml. (50 mg.) of

lidocaine solution were injected into the pelvis and flowed over the uterus and tubes after entry into the peritoneal cavity. The patient showed very little sign of pain.

Monitoring

A. Intraoperative

Intraoperative monitoring was infrequent and when it was done, it consisted of occasional palpation of the radial pulse. No effort was made to determine the depth of anesthesia or the presence of adequate respirations. The blood pressure was never taken. On more than one occasion, the person at the head of the table was engaged in holding the patient's arms so that the surgeon could carry out the surgery unassisted by the patient.

B. Postoperative

Postoperative monitoring was not witnessed by the author; on one or two occasions when the author visited a postoperative patient, no person was noted to be in attendance. In some clinics it was apparent that close attention was being paid to postoperative monitoring of vital signs.

Resuscitation Equipment

In government-operated clinics, resuscitation equipment was uniformly absent. In general, there was no oxygen, suction, or resuscitation bag. In several instances there was no light for the surgeon and on one occasion there was no electricity at all. The primary resuscitation drugs were Nikethamide, which is no longer used in anesthetic practice, a steroid (generally Solucortef), and occasionally Epinephrine (adrenalin). Only occasionally was a narcotic antagonist available, but not once was this drug Naloxone, the safest of narcotic antidotes.

Training

Although no direct study was made of the training received by the medical officer performing sterilizations, observation of the curriculum at Sir Salimullah Medical College in Dacca revealed that only one hour of lecture is devoted to anesthesia for tubectomy. Dr. Rasul, chairman of the Anesthesiology Department, was of the opinion that no other curriculum offered even one hour

of lecture. It was the impression of the author that in the event of an anesthetic complication, such as respiratory arrest, convulsion, or aspiration of vomitus, the medical officer would be singularly unprepared to respond with effective intervention.

III. DISCUSSION

III. DISCUSSION

It was apparent to the author, who observed 11 tubectomy procedures, that the anesthesia was not merely local anesthesia plus sedation, as those performing the operations believed, but general anesthesia induced by Pethidine, Promethazine, and Diazepam. Because these drugs seem to be poorly understood, it is appropriate to review their pharmacology.

Pethidine

Pethidine (Meperidine) was first described in 1939 as a compound derived from atropine-like spasmolytic compounds having morphine-like analgesic activity. Like most synthetic narcotic drugs, it was introduced as a non-addicting compound, but was later found to produce analgesia, sedation, euphoria, and respiratory depression and to have addicting qualities.[3]

The mean "fast" or "distribution" half-life of Pethidine is 7.6 minutes, which indicates that the drug is distributed extensively into the tissues. Metabolism occurs primarily in the liver; only 3.8 percent of an administered dose is excreted unchanged. Approximately 80 percent of a 100 mg. dose of Pethidine injected intramuscularly is absorbed over six hours; the mean time to maximum Pethidine plasma concentration is 24 minutes. There is marked variation in the plasma concentration obtained in individual subjects. Stambaugh, et al.[4] in 1976 reported that peak serum concentrations occurred an hour after the intramuscular injection. Sixty-four percent of the intravascular drug is bound to plasma proteins.[5]

The major metabolites of Pethidine are the N-demethylated product, Morpethidine, and the hydrolysis product, pethidinic acid, and its congeners. Of these metabolites, Morpethidine is the most potent, being half as active an analgesic as the parent compound, but twice as active a convulsive agent.

Patients with liver disease have been studied, and it has been noted that clearance of Pethidine from the blood is substantially reduced in the presence of cirrhosis.

There is considerable variability in the dose of Pethidine required to produce analgesia in different subjects. The degree of analgesia corresponds to the blood concentration. Control of severe pain requires blood concentration of at least 0.6 mg. to 0.7 mg. per liter.

Respiratory depression is the most significant side effect. Significant respiratory depression occurs at doses required to produce analgesia. The onset of depression of minute volume and tidal volume is apparent as early as 10 minutes after intramuscular injection. Following intravenous administration, initially high Pethidine plasma concentrations, averaging 0.8 mg. per liter, occur and are associated with respiratory depression and depression of regulatory response to carbon dioxide (Fung et al., 1975).[6] When the plasma concentration falls to approximately 0.4 mg. per liter, the regulatory response returns to normal.

Nausea may occur in up to 40 percent of patients receiving Pethidine, and it is seen primarily while plasma levels are rising rapidly. It occurs at plasma concentrations between 0.15 mg. and 0.3 mg. per liter.

Abnormal responses due to altered Pethidine disposition following a single dose are of short duration. However, when multiple doses are given, these differences may be more pronounced and long lasting.

When Pethidine is administered intravenously in a bolus injection of 50 mg., a rapidly achieved plasma level of 1 mg. per liter occurs. This level falls quickly so that by the end of 15 minutes, the plasma level has fallen to 0.4 mg. per liter. With the intramuscular injection of 100 mg. of Pethidine, the peak effect occurs at approximately one hour, and the blood level is slightly in excess of 0.5 mg. per liter. This level gradually falls to below 0.2 mg. per liter by the end of four hours.

In the performance of tubectomy, a surgical procedure which seldom takes longer than 10 minutes, one would be most interested in having adequate analgesia, i.e., plasma levels of 0.6 mg. to 0.8 mg. per liter during the time of surgery, with subsequent rapid fall-off in the plasma level to minimize postoperative depression. Large intramuscular doses of Pethidine are associated with prolonged analgesia, and with prolonged respiratory depression. It would therefore appear that if Pethidine could be administered safely intravenously, and if resuscitation measures could be instituted promptly in the event of a respiratory complication, then low-dose intravenous Pethidine at the time of surgery would be preferable to administration of high-dose intramuscular Pethidine at an undetermined time, 20 minutes to 60 minutes before surgery.

Diazepam

Diazepam is a benzodiazepine the pharmacological characteristics of which have been extensively investigated.[7] The drug is metabolized both by demethylation and hydroxylation, reactions which take place primarily in the liver. It is of interest that no correlation has been shown between plasma levels of the drug and therapeutic effect. Absorption following oral administration of Diazepam is rapid and complete, and peak plasma levels are reached within 30 minutes to 90 minutes. The absorption peak occurs earlier in younger persons, and may be delayed in the elderly. In the presence of chronic alcoholic cirrhosis, a lower, but not delayed, absorption peak has been observed.

Therapeutic effects of Diazepam first appear within 60 minutes of oral administration. Poor and irregular absorption is noted after intramuscular administration, and plasma levels are only 60 percent of those attained after an equivalent dose has been administered. Bolus intravenous administration of 10 mg. results in plasma concentrations of approximately 400 nanograms per milliliter, 15 minutes after administration. All subjects appear to be relaxed and drowsy, their speech slurred 10 minutes after administration of the drug. Sleep will generally persist for two hours but can be broken at any time.

Diazepam is highly bound to plasma proteins (96 percent to 99 percent), but it accumulates rapidly in the brain and other lipid-rich tissues. The terminal half-life of elimination is 24 hours to 48 hours. With increasing age, this half-life is prolonged. Detoxification of Diazepam is accelerated by hepatic enzyme induction, which may occur through previous use of the drug or by exposure to other enzyme-inducing agents. Patients with liver disease show delay in the appearance of active metabolites of Diazepam, but his effect is probably negligible with one-time usage.

Diazepam has been used as an induction agent to produce general anesthesia. It is particularly useful in patients in whom myocardial disease is present and for whom sodium pentothal might be contraindicated.

Promethazine

Promethazine (Phenergan) is a phenothiazine derivative with antihistaminic, sedative, antiemetic, and anticholinergic effects. The duration of action of a single dose is generally four to six hours, the major side effect being sedation. Combined with a narcotic such as Pethidine, the drug provides primarily antiemetic activity to counteract nausea, which may result when the drug is injected. Promethazine has also been alleged to potentiate the analgesic effects of Pethidine, but this has not been conclusively demonstrated. The most dangerous side effect associated with the use of this drug is gangrene of an extremity following inadvertent intra-arterial injection. Arterial spasms may also occur when Promethazine is extravasated around an artery. This may result in gangrene and require subsequent digital amputation. Intra-arterial local anesthetic solution, sympathetic block and heparinization have all been used to treat this serious complication.[8] Promethazine is also a weak alpha adrenergic blocker, the use of which has been reported to produce hypotension.

Lidocaine

Lidocaine (Xylocaine) is an amide-type of local anesthetic drug with a pka of 7.9.[9] Its protein binding in the human is approximately 64 percent. Central nervous system toxicity becomes manifest at plasma drug concentrations of approximately 5 micrograms per ml. The convulsion-producing dose for the monkey is 14 mg. to 22 mg. per kilogram. Adverse reactions are rare, but when they do occur, they are usually due to rapid inadvertent intravenous injection of normal extravascular doses administered into highly vascular areas. Central nervous system toxicity can occur occasionally with very small doses and should not be confused with the infrequent allergic response to ester-type local anesthetic agents. Allergic reactions to amide drugs, such as lidocaine, are almost unheard of. Central nervous system toxicity is manifested by apprehension, restlessness, and tremor which may progress to convulsions. The plasma concentrations accompanying convulsions are two to three times as great as those related to the earliest signs of central nervous system toxicity.

Cardiovascular toxicity includes both vasodilatation and vasoconstriction, myocardial stimulation, and depression. Severe overdosage may lead to hypotension and cardiac arrest.

The "disappearance half-life" of lidocaine is approximately one and a half hours. Average plasma clearance ranges from 0.54 liters to 1.44 liters per minute.

Lidocaine is metabolized by means of aromatic hydroxylation, N-dealkylation, and amide hydrolysis. The major metabolites include monoethylglycinexylodide, glycine xylodide, and the 4-hydroxyproduct formed from lidocaine. Only the first, monoethylglycinexylodide, contributes to the effects of the parent drug.

Although intravascular injection is associated with a rapid rise in blood levels, intraperitoneal infusion of large doses of lidocaine during tubal ligation procedures is accompanied by relatively low maximum plasma drug concentrations. This is explained by the theory that absorption into the portal circulation leads to extensive hepatic extraction during the first passage of the circulation.

Summary

To summarize, Pethidine has been shown to produce severe respiratory depression and apnea. In addition, cardiovascular collapse and coma may occur with severe overdosage. Diazepam has been reported to cause respiratory arrest primarily in elderly individuals. Promethazine produces central nervous system depression and in overdosage may also lead to unconsciousness and circulatory collapse. Intra-arterial injection is the most commonly encountered serious complication associated with the use of this drug.

During his observations of nine tubectomy procedures, the author noted that in every instance general anesthesia was induced, in some instances transiently and in others for a more prolonged period of time. In no case were proper precautions taken to administer and monitor a general anesthetic. In all instances, the surgeons felt that they were operating under local anesthesia. One might surmise, however, that even without local infiltration, the surgery, in many instances, could have been performed without complaint from the patient.

General anesthesia may be associated with many hazards, not the least of which are aspiration of vomitus, respiratory failure, airway obstruction from the tongue or other soft tissues, and marked hypotension. In an unmonitored patient, these problems might easily lead to death before they are recognized and proper treatment given.

The aim in using sedation and analgesia with local anesthesia is to reduce psychic and emotional trauma; the local block eliminates pain. One must be able to accomplish this safely. In order to do so, one must obtain maximal analgesia from the local injection of anesthetic solution and use the systemic

drug to control anxiety and minor operative discomfort not blocked by the local anesthetic agent. As previously indicated, intravenous Diazepam often produces general anesthesia, and low-dose intravenous Pethidine produces short-term analgesia. Intramuscular Pethidine is apt to produce poor analgesia at a time that would coincide with the surgical procedure. If, on the one hand, the analgesia is sufficient for surgery, it is apt to be quite prolonged and may produce marked respiratory depression. Intramuscular Diazepam, on the other hand, results in poor absorption and diminished activity.

Local anesthetic drugs also produce toxicity. In general, the maximum safe dose of lidocaine (Xylocaine) is 5 mg. per kilogram. Dosages in excess of this amount may substantially increase the risk of central nervous system excitation with convulsions, coma, and cardiovascular collapse. Some measure of safety is afforded by concomitant use of Diazepam, which will increase the seizure threshold for the local anesthetic drug.

Other local anesthetics, such as the PABA (para-amino benzoic acid) derivative 2-chloroprocaine, afford an additional margin of safety. Two-chloroprocaine (Nesacaine) is rapidly hydrolyzed by serum cholinesterase. The duration of action, therefore, is short, and large amounts can be given with relative safety. The chief disadvantage of the PABA ester drugs is that they produce sensitivity reactions more often than the amides such as lidocaine. Anaphylactic reactions to the injection of lidocaine are virtually unheard of.

Another method to reduce local anesthetic drug toxicity is to reduce the concentration of the injected agent. Lidocaine 0.5 percent may be used quite successfully for infiltration analgesia. The disadvantages of this technique are that more time is required for an adequate block to occur and the duration of the block may be shortened.

In reviewing the mortality data presented by Rosenberg [1] and by Grimes and Peterson [2] one might wonder why five anesthesia-related deaths occurred in early 1980 while none were noted previously. One possibility is that there was earlier under-reporting of deaths. Grimes and Peterson consider this unlikely, since in their investigations they used several different data sources and found no significant differences in the number of reported deaths.

Another possibility is that there was increased recognition of respiratory-related deaths previously attributed to other causes, such as allergic reaction to local anesthetic drug.

Variation in potency of the several drugs used for analgesia and sedation was ruled out by the FDA Drug Analysis.[2] One possibility suggested by Dr. Rahman Khan is that the Pethidine produced earlier in Bangladesh might have been less potent. Tightening of government standards within the last year could have resulted in the production of a more potent drug, which might then have caused increased respiratory depression. It seemed to be Dr. Khan's feeling that clients appeared to be more sedated at the present time than in the previous year.

The author feels that the most likely explanation is biological variation (see Appendix J). With more procedures being done, it would seem reasonable to expect to find greater numbers of individuals at each end of the dose-response spectrum. Although the majority of persons would respond to a given dose with a predictable level of sedation, certain individuals might be resistant to the drug's effects, whereas others might prove to be particularly sensitive. Since a standard dose was administered, and generally independent of body weight, it is certainly conceivable that in unusually sensitive individuals, the usual dose could have produced fatal respiratory depression.

IV. RECOMMENDATIONS

IV. RECOMMENDATIONS

The following recommendations are intended to enhance the operative experience for the patient while at the same time reduce risk. Because Pethidine can produce profound respiratory depression, it is urged that this drug not be administered intravenously unless appropriate resuscitation equipment is available and the operating surgeon is experienced in the use of resuscitation devices. If these conditions cannot be satisfied, the author recommends that only oral and intramuscular medications be given, and then in reduced dosage, and that the primary emphasis be on an adequate local anesthetic block. Under optimal conditions, intravenous administration is to be preferred and is recommended below.

Medications

A. Premedication

1. Diazepam: Usual dose:10 mg. p.o., one hour before surgery. (Reduced to 5 mg. if weight is less than 75 pounds.) This drug is given to allay anxiety and to provide mild amnesia.

2. Meperidine (Pethidine): This drug is not used for premedication. (See below.)

3. Atropine: This drug is not used for premedication. (See below.)

4. Promethazine (Phenergan): This drug is not used for premedication. (See below.)

B. Operative Analgesia

1. Meperidine (Pethidine): Usual dose:50 mg., administered intravenously. (Reduced to 25 mg. if weight is less than 75 pounds and/or if patient has any concomitant debilitating illness.) One-half of the dosage is administered, two to three minutes are allowed to elapse, and then the remaining dose, if indicated (i.e., if response to painful stimulus is excessive) is administered. This drug will provide analgesia for the operation. When given intravenously it is effective within two minutes. A dangerous side effect is respiratory depression.

2. Atropine: Usual dose:0.4 mg. (1/100 grain), administered intravenously. (Reduced to 0.4 mg. if weight is less than 75 pounds.) This drug is used to block vagal stimulation arising from traction on the uterus and tubes.

3. Promethazine (Phenergan): Usual dose:25 mg., administered intravenously. This drug is given to potentiate the narcotic and to reduce the emetic effect of intravenous Pethidine. Subcutaneous and intra-arterial injection should be avoided.

C. Local Anesthesia

1. Lidocaine (Xylocaine, Lignocaine), 1 percent solution: The maximum dosage should be 5 mg/kg. (A 40 kg. woman should have no more than 200 mg., or 20 cc., of a 1 percent solution.) Adrenalin added to the anesthetic solution offers little real advantage and contributes its own toxicity.

   In administering the drug, the subcutaneous tissues, fascia, subfascia, and peritoneum are infiltrated first and three to five minutes are allowed to elapse before the operation is begun. Local anesthetic solution may also be flowed onto the tubes and uterus to provide topical anesthesia. Five ml. should be used for this purpose. Lidocaine 0.5 percent may be used. This affords an extra margin of safety. Two-chloroptocaine (Nesacaine) has reduced toxicity but may be more allergenic.

D. Narcotic Reversal

1. Naloxone (Narcan): Usual dose:0.4 mg., administered intravenously. Onset of action is prompt, but duration of action may be exceeded by that of the narcotic. The patient should be reevaluated frequently for signs of re-narcotization. If re-narcotization occurs, additional Naloxone should be administered. Naloxone has virtually no toxicity or narcotic agonist effect of its own.

E. Resuscitation Drugs

The emergency tray should contain:

1. Naloxone (Narcan): See above.

2. Epinephrine (Adrenaline): 1 cc. ampule of 1:1000 solution. This drug is useful in treating acute CV collapse, anaphylactic shock, acute asthma, hypotension, etc.

3. Ephedrine: 50 mg. (1 cc.) ampule. A 12.5 mg. to 25 mg. IV is administered to treat hypotension while starting IV fluids.

4. Solucortef: 100 mg. ampule. For IV use in event of severe shock, this drug is given in large doses (30 mg/kg) for acute aspiration of gastric contents.

5. $NaHCO_3$ (Sodium bicarbonate solution): 50 ml. ampule containing 44.6 milliequivalents $NaHCO_3$. This drug is used to treat metabolic and respiratory acidosis which occur in association with tissue hypoxia from shock or apnea.

6. Aminophyllin: 10 ml. ampule of 500 mg. This drug is used to treat acute asthmatic attack. The drug is diluted in 500 cc. D5/NS and titrated to the desired endpoint.

7. Physostigmine (Antilirium): 2 ml. ampule with 1 mg/ml. The usual dose is 0.5 mg. to 1.0 mg., administered intravenously to antagonize CNS effects of atropine and Diazepam.

F. Opticnal Drugs

1. Ketamine (ketaject, Ketalar): 10 mg/ml. in 10 ml. vial. This drug may be used to supplement Pethidine analgesia when the latter proves inadequate. The dosage should not exceed 0.4 mg. to 0.5 mg/kg. IV (maximum dose is 25 mg. IV) and should not be repeated.[10]

Monitoring

A. Pre-operative

The patient's blood pressure, pulse, and respiration should be monitored every 15 minutes from the time premedication is administered until surgery begins. The results should be recorded on a suitable form.

B. Intraoperative

The patient's blood pressure, pulse, and respiration, and the level of anesthesia (Stage I, II or III) should be monitored and recorded every five minutes during surgery. These conditions, and the drugs, dosages, and times of administration should be recorded on a suitable form.

C. Postoperative

The blood pressure, pulse, and respiration should be monitored and recorded every 15 minutes for one hour post-op, then every four hours until discharge. These conditions should be recorded on a suitable form.

Intravenous Fluids

IV fluids (D5/NS or other fluids) should be prepared, and the administration set and needle attached, before the first case each day. Another set should be prepared and kept on hand for subsequent cases.

Resuscitation

A. Equipment

The following resuscitation equipment should be on hand:

1. Anesthesia mask and self-inflating bag with O_2 nipple.
2. O_2 tank with reducing valve, flow meter, tubing, and mask.
3. Suction machine with (two) traps and tubing.

4. Nsal airways (two sizes).

5. Oral airways (two sizes).

6. IV fluids (see above).

B. Instruction

Time should be provided in the family practice and/or family planning training curriculum for teaching basic techniques of resuscitation, including airway management, external cardiac massage, and use of resuscitation drugs.

Pre-anesthetic Screening*

All patients with intercurrent illness or systemic disease should be rejected, pending resolution of the condition. (Further evaluation may lead to subsequent acceptance, as with the diabetic, asthmatic, or hypertensive patient.)

Hemoglobin of less than 8 grams percent should be grounds for delaying an operation, pending appropriate evaluation and treatment of anemia.

Training in Anesthesia for Family Planning Doctors

An anesthesiology curriculum should be prepared and taught during the training period. The following subjects should be taught:

1. Pharmacology of local anesthetic drugs, narcotics and their antagonists, tranquilizers, atropine, and drugs used in resuscitation.

2. Clinical use of above drugs. Dangers should be emphasized.

3. Monitoring of anesthesia and airway maintenance.

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*See page 8 of Draft Manual for Sterilization Operations, Appendix H.

4. **Resuscitation, including use of bag and mask for ventilation, airway maintenance, external cardiac massage and use of resuscitation drugs.**

Practical training using models for learning resuscitation should be emphasized.

Monitoring of the Sterilization Program

On-site monitoring of the sterilization program should be initiated. Trained anesthesia personnel should visit periodically all facilities in which tubectomies and vasectomies are performed. The anesthetic practices should be observed and an inventory taken of supplies and resuscitation equipment

V. ANTICIPATED PROBLEMS RELATED TO IMPLEMENTATION OF RECOMMENDATIONS

V. ANTICIPATED PROBLEMS RELATED TO IMPLEMENTATION OF RECOMMENDATIONS

Physician Resistance to Change

With the present regimen of intravenous general anesthesia, surgeons have become accustomed to operating on immobile patients who do not complain about pain during surgery. If the suggested regimen is followed, the patients will no longer be asleep and will require more gentle handling and a better local anesthetic block. The surgeon will have to use a gentle surgical technique and move more slowly, allowing time for the block to develop. Currently, surgeons in the field are proud of their surgical expertise and operate as rapidly as possible, often completing the procedure within five minutes. If one is to take time for the local anesthesia to develop and if one is to handle tissues delicately and gently, operating times will be lengthened. The surgeon may have difficulty accepting this fact.

Patient Dissatisfaction

Because the patient will now be awake, the amnesia previously experienced with intravenous Diazepam may no longer be as pronounced. Patients may, therefore, remember some operative discomfort, particularly if the surgeon has been rough and has not taken the time to produce an adequate local anesthetic block. A patient unhappy with her surgical procedure may dissuade other potential clients from undergoing a similar operation. For this reason it is imperative that patients be treated with utmost courtesy and gentleness throughout the operative experience.

Procurement of Resuscitation Apparatus

Although most BAVS clinics have a suction, oxygen, and a resuscitation bag, this equipment was lacking from virtually all government-operated sterilization centers. Before sterilization operations can be performed with any degree of safety, this equipment must be made available to all family planning centers. This will present a procurement and distribution problem of considerable magnitude.

Procurement of Necessary Drugs

Some government centers had insufficient supplies of Pethidine and were having to buy this drug on the local market. It will be necessary to furnish Diazepam in the 5 mg. tablet form and Naloxone (Narcan) in the 0.4 mg. per cc. ampules to all sterilization centers. In addition, it would be advisable to have available 2-chloroprocaine as a 1 percent solution and lidocaine as a 0.5 percent solution. Again, there will be a supply and distribution problem.

Increasing Level of Anesthesia Training

Training in the administration of anesthetics is likely to present a problem because there are very few fully trained anesthesiologists in Bangladesh. Every effort should be made to encourage specialization in anesthesiology and to foster an interest in teaching among the few existing anesthesiologists. It will be a sizable undertaking to adequately train the family planning officers in the necessary anesthetic techniques and resuscitation. Furthermore, time must be made available in the curriculum for additional hours of anesthesia training.

Monitoring of Sterilization Program

On-site monitoring of the sterilization program will require trained anesthesia personnel to visit those facilities in which tubectomy and vasectomy procedures are being performed. A large number of trained individuals who would be willing to devote time to visiting remote facilities will be needed. On-site monitoring will be difficult to implement until adequate numbers of personnel are trained and made available.

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APPENDICES

Appendix A

LIST OF PERSONS CONTACTED

Appendix A

LIST OF PERSONS CONTACTED

Mr. Ali Ahmed, Assistant Deputy Director, Comilla District

Dr. Gyasuddin Ahmed, Thana Medical Officer, Chandina

Dr. Jahir Uddin Ahmed, Assistant Deputy Director, Comilla District

Dr. Najim Huddin Ahmed, Director, Tongi BAVS Clinic

Dr. Salahuddin Ahmed, Director, BAVS Clinic, Dacca

Dr. Sayed Ahmed, Director, Comilla BAVS Clinic

Dr. Nargis Akhter, Presumed Successor to Director of Family Planning Services

Dr. Shuikh Mahmood Aslam, Thana Medical Officer, Baleswah MCH Center, Dacca District

Dr. Sultana Begum, National Medical Director, BAVS

Dr. Carol Carpenter-Yaman, Population Section, USAID, Bangladesh Mission

Mr. John Dumm, Head, Population Section, USAID, Bangladesh Mission

Dr. Mohammed Manirul Islam, House Physician, Comilla BAVS Clinic

Dr. Tajul Islam, Thana Health Administrator, Debidwar Thana Health Complex

Dr. Suraiya Jabeen, Chairperson, Department of Ob/Gyn, Sir Salimullah Medical College, Dacca

Dr. Atiqur Rahman Khan, Director of Family Planning Services, Bangladesh

Mr. Ali Noor, Population Section, USAID, Bangladesh Mission

Dr. Azizur Rahman, President, BAVS

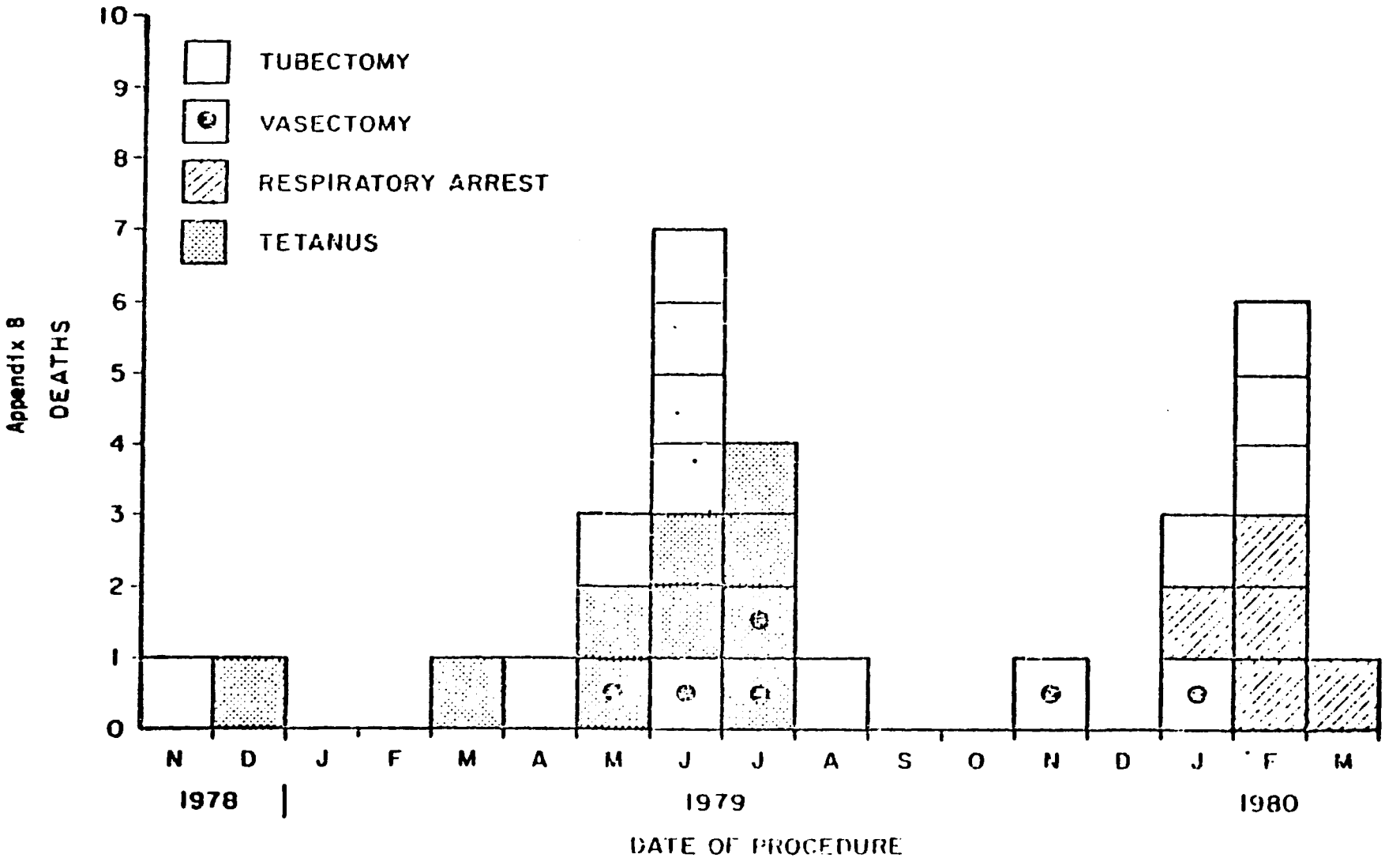
Dr. Khalilur Rahman, Associate Professor of Anesthesia, Institute of Cardiovascular Diseases

Dr. Lutfur Rahman, Thana Medical Officer, Debiwar Thana Health Complex

Dr. Shafiqur Rasul, Associate Professor of Anesthesia, Sir Salimullah Medical College, Dacca

Appendix B

GRAPH OF
DEATHS ALLEGEDLY DUE TO STERILIZATION,
BY MONTH AND TYPE OF PROCEDURE
AND BY PRESUMPTIVE CAUSE OF DEATH
(BANGLADESH, NOVEMBER 1978 - MARCH 1980)


Appendix 8
DEATHS
10
9
8
7
6
5
4
3
2
1
0
TUBECTOMY
VASECTOMY
RESPIRATORY ARREST
TETANUS
N D J F M A M J J A S O N D J F M
1978
1979
1980
DATE OF PROCEDURE

Appendix C

BAVS MEDICAL SUPERVISION PLAN

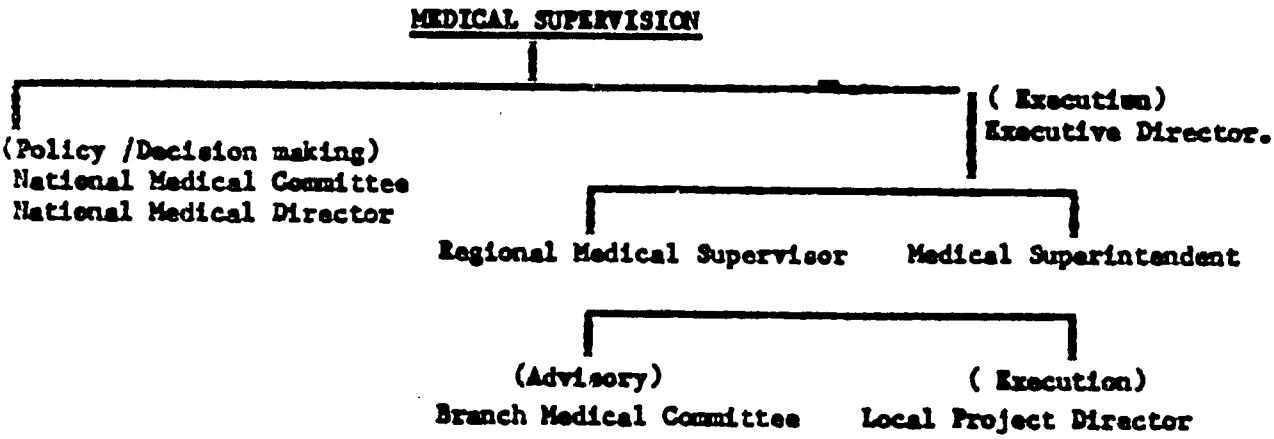
MEDICAL SUPERVISION

DEFINATION:

Medical Supervision is a medical administrative process through which the implementation of Medical Policy of an organization is supervised. Under this process the overall Clinical Administration including Personnel Management, basic medical standard, maintenance of cleanliness, asepsis of clinical facilities, equipments, emergency back-up services, medical supplies and the patient Service including Patient recruitment, screening surgical procedures and follow-up services, all come together.

Till date 22 clinics of BAVS are in operation. Co-ordination of their activities and successful implementation of the programme require close and effective supervision. A long-range Comprehensive Medical Supervision Plan has, therefore, been developed with an aim to strengthen the Medical Standard, and improvement of the quality Service Delivery .

STRUCTURE



The broad spectrum of Medical Supervision could be distinguished into two categories for optimum effect:

1) Advisory Body
2) Implementary Cell

ADVISORY BODY

A) National Medical Committee
B) National Medical Director
C) Branch Advisory Committee

(More)

A. NATIONAL MEDICAL COMMITTEE.

1. to assume overall responsibility for the national medical supervision program.
2. to establish all medical and clinical policies (as recommended by the implementers).
3. to meet a minimum of six (6) times per year, i.e., every two months, with the following minimum agenda:

- review work of implementers and monitor whether policies and decisions are being executed.
- review and discuss problems reported by the Regional Medical Supervisors during their Medical site visits;
- exchange views with Regional Medical Supervisors at least twice a year;
- review reports of complications from BAVS clinics during the previous two months , particularly major complications and deaths.

4. to co-ordinate in official and unofficial capacities with medical professionals of other agencies involved with voluntary sterilization, especially PCFP Division.
5. to investigate major medical problems and deficiencies not only of BAVS, but also of the entire national program.
6. to set a high tone for quality medical care and provide leadership to the country in establishment of national medical standards.

B. NATIONAL MEDICAL DIRECTOR:

1. to convene and chair meetings of the National Medical Committee;
2. to co-ordinate among the medical volunteers of BAVS at the national and local levels;
3. to carry out the volunteer level work of the National Medical Committee in the periods in between the regular bi-monthly meetings;
4. to interview candidates for senior-level medical staff positions in the organization;
5. to lend technical, specialist expertise in the development and conduct of BAVS medical training programs;
6. with the assistance of BAVS medical managers (i.e., Medical Superintendent and Regional Medical Supervisors), to recommend policies or revisions in policies to the National Medical Committee.

C. BRANCH ADVISORY COMMITTEE:

1. to interpret BAVS Minimum Requirements for Service Delivery at the local level and moniter their implementation by medical staff;
2. to report to and advise the local branch Executive Committee regarding medical care at the branch clinic;
3. to investigate any medical problems at the branch clinic and report to National BAVS and the branch Executive Committee;
4. to advise Project Director and medical staff
5. to act on behalf of the National Medical Committee at the branch level;
6. as key professionals and leaders in the community, to serve as liaison with medical personnel of other local institutions, particularly FCFP Division.
7. to meet every three months for reviewing the medical aspects in Service Program.
8. to meet with the BAVS Regional Medical Supervisors to review the status of the local clinic.

IMPLEMENTERS

A. MEDICAL SUPERINTENDENT

B. REGIONAL MEDICAL SUPERVISOR

C. PROJECT DIRECTOR

MEDICAL SUPERINTENDENT:

1. To co-ordinate , administer and manage the entire BAVS medical supervision system;
2. To communicate with all clinics and medical personnel, BAVS medical policies set by the Medical Committee;
3. To co-ordinate the scheduling of medical/ side visits by the Regional Supervisors.
4. To receive, review and transmit the reports of the regional supervisors to the Executive Director and the BAVS National Medical Committee.
5. To visit BAVS clinics periodically and serve as Regional Supervisors for clinics in the Dacca Division; and
6. To manage and supervise Dacca clinic to include organization of training programmes.

(More)

REGIONAL MEDICAL SUPERVISORS:

1. To conduct on-site visit to each assigned BAVS Satellite clinic within the assigned region four times a year and perform the following

   Inter alia:

   a. Observe surgery at each clinic and assess the competence and organization of the operating physicians and the surgical team;

   b. Check overall compliance of each clinic to Minimum BAVS Medical Standards;

   c. Review overall clinic management, including maintenance of clinic records;

   d. Assess the adequacy, cleanliness and asepsis of clinic facilities;

   e. Review and assess pre- and post-operative patient care, especially client selection procedures, post-operative monitoring and follow-up;

   f. Review and discuss any complications at the clinic, since the last visit;

   g. Verify the presence and functioning status of all clinical equipment, particularly life-saving emergency equipment;

   h. Assess clinical staff's knowledge and ability to properly use emergency equipment;

   i. Review the adequacy of emergency back-up systems at each clinic; and

   j. Meet with Project Director and/or Medical Advisory Committee of the local branch to review local, routine medical supervision and results of site visit.

2. To submit a report (according to standard BAVS format) on each clinic visit, to include overall impressions and specific problems and recommendations.

3. Upon the request of the National BAVS, to investigate immediately any and all deaths occuring at BAVS satellite clinics within the assigned region and submit a report to BAVS within 24 hours of the completion of the on site visit.

4. To make recommendations on medical policies and procedures to the BAVS Headquartgrs and the BAVS Medical Committee.

(More)

(Contd. .. from previous).

Regional Medical Supervisors:

5. To meet semi-annually with the other Regional Medical Supervisors and the BAVS Medical Committee to review overall medical supervision systems.

6. To perform on site follow up of physicians trained by BAVS during the visit to the assigned region.

PROJECT DIRECTORS:

Most of the Project Directors of different BAVS clinics are not only physicians but also very highly qualified and well experienced in their field. They are dedicated persons and deeply involved in BAVS programme and are sincerely trying to see that the highest Medical Standard is maintained in their respective clinics.

a) The Project Director will be responsible for an overall clinical supervision both Medical and Administrative.

b) Supervision of clinical staff.

c) Responsible for financial management

d) Report to the BAVS and local Executive Committee

e) Meet the Regional Medical Supervisors during their visits

f) Visit clinic every day.

g) He should be in contact with person/persons who can provide back up facilities in case of emergency (Medical Committee and specialist in the locality). All telephone numbers of such persons will be available along with the consent of these physicians for responding immediately.

h) In all cases of accident and emergency - Project Directors will be informed and make himself available immediately. (Tel.No.readily available with clinic staff).

FOUR ZONES

For effective and practical Medical Supervision, Service Programme has been divided into four zones: Dacca, Khulna, Rajshahi, and Chittagong.

DACCA

Dacca zones comprises of:
Dacca(HQ), Tongi, Tangail, Serajgonj, Mymensingh, Pabna and Barisal. The Medical Superintendent shall supervise the clinics at Dacca zone.

(More)

KHULNA

Khulna zone comprises of :

Khulna (HQ), Jessore, Faridpur and Kushtia. Dr. M.A . Qader, Medical Director of Khulna NAVS clinic shall act as regional Medical Supervisor for this region.

RAJSHAHI

Rajshahi zone comprises of:

Rajshahi, Rangpur (HQ), Bogra, Naogaon and Gaibandha. Prof. A.B. Khuiyan, Project Director Rangpur shall be the Medical Supervisor for the Rajshahi region.

CHITTAGONG

Chittagong zone comprises of:

Chittagong, Sylhet (HQ), Noakhali and Comilla. Prof.Sayed Ershad Ali, Project Director for Sylhet Branch shall be the Supervisor of the region.

VISIT SCHEDULE

Each clinic should be visited atleast four times a year. But the Regional Supervisors should be prepared to make more frequent visits if and when necessary. Before the Projects visited, thet the concerned clinics should be informed and the local Project Directors should be contacted and informed of the visit schedule. The relevant papers must be prepared before hand for discussion during visits. The Regional Supervisors should spend a fit full day at the proposed visit site to observe all aspects of Service Delivery in that clinic.

SUBMISSION OF REPORTS:

Report should be submitted within 5 days of th e visit in a prescribed form. The prescribed forms will be in use for 6 months on trial basis. The Medical Superintendent will review and go through the site visits, conveys the the summary to the NAVS Project Directors for discussion and make recommendation to the Project Directors concerned, and report to Executive Director, and the National Medical Director for information.

Appendix D

BAVS HANDBOOK ON MEDICAL STANDARD

BAVS

Medical

Standard

BANGLADESH ASSOCIATION
FOR
VOLUNTARY STERILIZATION

BAVS

Medical

Standard

A bavs medical publication - 1979

INTRODUCTION:

BAVS is working for the last six years and has made definite contribution in the advancement of Voluntary Sterilization in Bangladesh. Now, Voluntary Sterilization has assumed number one position amongst the Family Planning method. When we begun sterilization activity there were few clinical facilities. Today Government has activated more than 300 centres where Voluntary Sterilization Services are available. By this time, we have also extended our clinical facilities upto 24 centres throughout the country.

Our experience has shown us that ethical and quality service must be provided to improve the rate of acceptance and to increase the popularity of Voluntary Sterilization. To offer an ethical, effective and quality service certain basic and minimum requirements must be provided which can be called guidelines, or standard for Service delivery in Voluntary Sterilization.

This is our attempt to write a basic guideline for service delivery in Voluntary Sterilization taking into consideration the facilities, service standard and Personnel requirement for a single purpose Voluntary Sterilization clinic. But this guidelines will also be helpful in establishing Voluntary Sterilization Service in multipurpose clinics, such as Health Centres, M.C.H. Centres and other Hospitals.

Obviously factors like physical facilities, number of staff, equipments etc. will vary with patient load but the basic standard that has been advocated will definetly be applicable in any Service centre. In developing the guideline we have always been conscious of our socio-economic environment.

(more)

FACILITIES:

A clinic should be housed in a well ventilated brick-built house with concrete floor. The location of the clinic must be central and easily accessible.

CLINIC SHOULD HAVE:

(a) Running water
(b) Electricity
(c) Adequate Toilets (Sanitary)
(d) Accomodation

i) Reception and Registration area
ii) Waiting Room for male and female
iii) Counselling Room for male and female
should have privacy, should be free from any interruption and should have counselling aid (Flip Charts, materials on MCH, Family Planning and Basic Primary Health care etc.)
iv) Lab. facilities
Microscope, Hb metre, Urine examination facilities.
v) Pelvic Examination: Privacy should be maintained and all equipments for medical and Pelvic examination, such as

1.B.P. Instrument
2.Height weight Scale
3.Stethescope, Thermometer
4.Speculum, Sponge forceps, Gloves and antiseptic Lotion

Male Examination Room should be provided with
1. Ht. wt. chart
2. B.P. Machine, Stethescope, Thermometer.

PRE-OPERATIVE PREPARATION ROOM:

Shaving, washing, changing and pre-medication are to be done. Toilet facilities must be attached. Few beds should be provided. This room should be near O.R.

(more)

OPERATING ROOM:

Should be away from general throughfare of the clinic. Should be isolated and should be closed to the Post Operative rest room, Size of the Operation room should be adequate where operating staff can move freely and should have sufficient cupboards . and rack facilities.

Min. two anterooms are necessary and ideal.

(i) Scrubbing room with running water must have foot or elbow operated water tap.

(ii) Sterilization room
Autoclaving, Sterilization, Boiling, washing and cleaning equipments etc. must be provided in a separate room.

The whole Operation area should be fly proof.

EQUIPMENTS:

1. Operating Table with Lithotomy and Trendlenburg facilities.
2. Instrument Trays - 2
3. Saline Stands - 2
4. Operating light - 1
5. Emergency Light - 1
6. Blood Pressure Instrument - 1
7. Stethescope - 1
8. Kits - 3
9. Rack - 1
10. Drums - 4

EMERGENCY EQUIPMENTS:

*(a) Air-Way tube
*(b) Resussicitator
(c) Laryngoscope & Endotracheal tubes
(d) Suction Apparatus
(e) Oxygen Therapy equipments
(f) Intravenous administration sets with large calibre needles.
(g) Emergency drugs and antidotes

(more)

Recovery Room or post operative ward

Post-Operative recovery room or ward should be situated adjacent to the operating room; whatever the space is, must have good lighting, well ventilated and outstanding cleanliness must be maintained.

Follow-up space/room

As follow-up is emphasised in BAVS service delivery programme, a separate follow-up room or certain isolated space should be allocated in the clinic premises.

OTHER FACILITIES:

Medical Store, Doctors rest room, Nurses Dressing room, Office room should be provided.

PERSONNEL:

Requirements vary with the Patient load. However, for BAVS clinics on average yearly patient load of 2000, the following personnel will be necessary.

MEDICAL		NON-MEDICAL	
Surgeon	2(One Male + One Female)	Administrative Officer	1
Sister Nurse	1	Accountant	1
O.T. Nurse	1	Counsellor	2(1 Male + 1 Female)
Nurse Aid	3	Typist/Clerk	1
Lab. Technician/ Store Keepre	1		
Ayas	2	Messenger	1
		Guard	3
		Cleaners	2
		Cook	1
		Helper Cook	1

In Government clinics and Rural Health Centres almost all of these personnel are available, such as Doctor, Nurse, Lab. Tech., Aya, Messenger, Guard, Cleaner, with the exception of Counsellor and Administrative Officer.

(more)

In Bangladesh Government programme , LHV, FWA, FPA can perform the duties of Counsellors.

PATIENT REQUIREMENT:

It is our firm belief that proper Patient selection is the most important single factor, in avoiding complication and other related problems in connection with Voluntary Sterilization. For this reason BAVS strongly emphasises on rigid Patient recruitment and selection policy which is mandatory for all BAVS Service centres.

Criteria

1) Must be married
2) Age 21 years and above
   (within reproductive period)
   Minimum two children.
   Age of the last child must be over one year
3) Must be physically and medically fit.

With this criteria patients are accepted for screening. And screening should be done methodically and following points should be noted:

F e m a l e:

1) General and Systemic examination
2) Allergy
3) Abnormal symptoms
4) Skin diseases
5) Drug addiction
6) Past Medical History
7) Past surgery
8) Medication
9) Contraceptive History
10) Gynaecological History
11) Obstetrical History
12) Menstrual History

M a l e:

1) General and Systemic examination
2) Hydrocele, Vericocele, Hernia
3) Filarisis
4) An/Un-descended testes
5) H/O previous surgery on the Scrotum or male genitalia

(more)

COUNSELLING AND INFORM CONSENT:

BAVS puts greater importance in counselling of each and every client and to obtain informed unpressurised Voluntary Consent for which a standard consent form has been developed. This form should be followed rigidly and counselling should also be provided during follow-up.

RECORD KEEPING:

Records and datas are very important. An elaborate admission form, discharge forms and operative record forms have been developed, and should be rigidly followed for every acceptors.

PATIENT EXAMINATION:

All clients seeking Voluntary Sterilization must be carefully examined prior to surgery.

General Examination

Appearance and Height
Weight
Cynosis
Jaundice
Edema
Pulse
Temperature
Respiration
Blood Pressure

Pelvic Examination

Swelling
Discharge
Cervical Tumour
Crosia
Mobility and size of uterus

Systemic Examination

Heart
Lungs
Liver
Spleen
Kidney
Throat
History
Thrombo phlavitis
Thrombo-embolism
Tumours
Infection

LABORATORY INVESTIGATION:

No patient should go for operation unless Laboratory investigations are done properly. Blood for Hb. Differential Count, Total count, Urine for sugar Albumin must be done. We advocate not to accept client with less than 45% of Hb/(gm.).

(more)

PRE-OPERATIVE PREPARATION (Female Sterilization):

When the client is fit physically and medically she is accepted for Surgery. Accepted client is given a cleansing bath, PTR and BP and other vital signs are checked once again. No solid food for 6 hours and liquid for 4 hours before surgery. Enema is given only when bowel has not moved satisfactorily. Shaving of Pelvic area is to be done by expert personnel and necessary care must be taken that no injury taken place.

PRE-MEDICATION:

A clean Operative Gown is supplied to each client. Injection Phenrrgon 50 mg + Atropin ½ g. I/M to be given 30/40 minutes before the operation. Patient must void with satisfaction. No Catheterisation is needed Slow I.V. injection of 50 to 100 mg. Meparadine Hydrocloride Diazapam 10 mg atleast 3 to 5 minutes before the operation. Repeat Vaginal Examination now.

Skin preparation and Draping:

Interior abdominal wall and Pelvic area is cleaned and prepared first with Iodine and then with Surgical spirit and the skin is draped. 25 degree Tendelburg position is made at the time of Peritoni: opening.

LOCAL ANASTHESIA:

1 to 2% Planocaine is used as local Anaesthetic agent.
A total 10 to 15 cc, local anaesthetic is usually adequate.

In a normal sized uterus patient - 1" Transverse skin incision is made just an inch above the upper border of the Pubic Symphysis. If the Uterus is enlarged as in Post Abortal, Post natal, the incision is made about an inch below the Fundus of the uterus. Subcutenous fats is incised by gauze dissection -- rectus sheath can be seen. The sheath is separated with sharp dissection. Pyramedalis muscles are not disturbed, the rectus muscles in the mid-line, retracted laterally and peritonium is seen with pointed artery forceps, the Peritonium is picked up and taking care not to injure bowel or bladder. With the Peritonium elevated, incision is given. Peritonium can be opened longitudinal or tranversely.

(more)

Delivery of Tubes

Index figure is inserted into Pelvic cavity. Pelvic organs are examined by palpation. If the uterus is retroverted it can be easily corrected placing fingers in the Posterior wall of the Fundus and moved it on quite long. With practice one can easily hook the middle part of the Tube and elevate it up near the incision. When the tube is seen it is grasped with a BABCOCK. Rarely two fingers are needed, one in front one behind slipping the fingers side-ways tubes can be grasped out one at a time in between the two fingers.

Closure of the Abdomen

Peritonium is closed with Purse string of Chromic O'Catgut. Rectus Muscles are brought into apposition by loose plain Cat-gut and wound is closed with silk, and covered by gauze and Leukoplast.

POST-OPERATIVE CARE:

After the operation the client is brought to the post operative area on a trolly. Since the operation is done under local anaesthesia, no special care is required other than rest, recording vital signs and inspection of wound is necessary.

Food and drink is restricted for 4 to 6 hours because of nausea (due to the Pethedine) and sleepiness. Once the nausea and sleepiness are over the client is encouraged ambulation. When she is able to void and bowel sounds are heard she is permitted to go home. Many of the clients may have to walk a long way home or have to undertake a long trip by bus, for this situation it is better to keep them longer, if possible overnight.

Many clients who are city dwellers or close to the clinic can be allowed home within 12 hours. In the majority of cases a full meal can be taken 6-8 hours after the operation when flatus has been passed.

INSTRUCTIONS ON DISCHARGE:

1) Report immediately if there is excessive pain, fever, abdominal disturbance or discharge from the wound.

(more)

2) Take the medicines as directed by the Doctor.
3) Report to the clinic for removal of the stitches and post operative check-up between 7-10 days.
4) Rest at home the first day
5) Normal light work can be resumed the following day.
6) Sexual relation is not prohibited but avoidance of trauma and infection is advised.
7) In case of an allergy such as a skin rash with iching, take the special tablets and report immediately.

LONG-TERM ADVICE:

In 99 percent of acceptors 'Post Op' is uneventful, In less than one percent of cases, only minor ailments such as wound induration, discharge or stitch abscess may need additional care.

When the wound is healed and the vaginal examination is normal, the client is allowed to return to her normal routine work. All patients are instructed to have a six and twelve-month check-up. Every case must be dealt with utmost loving care.

PRE-OPERATIVE PREPARATION: (FOR MALE STERILIZATION)

- Cleansing and shaving of scrotum
- A cleansing soap and water is a must. Washing of pubic area and Scrotum is done with soap and water by the client himself after shaving.
- The patient should be helped in O.T. in lying on the table. He whould be undressed and his scrotum should be cleansed with non-irritant antiseptic solution like - Savlon, strong antiseptic, iodine or spirit should not be used because they cause severe irritation. After painting the scrotum, vasectomy sheet is to be applied and the scrotum is delivered through a small hole in the vasectomy sheet. No taping of the penis is required.

IDENTIFICATION AND ISOLATION OF VAS:

Vas on both sides should be palpated carefully, utmost gentleness is practised to handle this very sensitive part. Pain and discomfort at this stage will induce sperm of cremaster and will cause retraction

(more)

of the testicle making operation difficult. Vas of the selected side is manipulated to isolated and fix under the skin the most suitable part for incision. Thumb and index finger or one hand maintains gentle traction of the testicle downwards and corresponding fingers of other hand are used to manipulate the vas to bring it upwards and laterally. This will bring the vas away from the other structures in the cord. The cord is held in the position and is now superficial and just under skin and dartos muscle.

In thin person it can be seen clearly under the skin.

FIXATION OF VAS:

This manoeuvre of fixation of vas is most important step in vasectomy. If this art is mastered then vasectomy is a simple operation.

INJECTION OF LOCAL:

In this position of fixation, local is injected into skin and then close to vasal tissue. In all one needs only 1 1½ cc. of local.

INCISION:

Skin incision of 1/3 to 1/4 of an inch is made directly over the vas where local is deposited, in the line of vas.

The skin is cut and dartos muscle is separated by fine mosquito forceps.

LIFTING OF VAS:

Skin forceps or tissue forceps is used to hold the vas. The vas forceps is introduced through the incision and the jaws are opened. The forcep is advanced over the vas to go behind the vas. Once the forcep is behind the vas its jaw is closed.

The vas is now pulled up, by the forceps just above the skin incision. It cannot be pulled further unless the sheath is incised.

(more)

Take the scalpel and incise the sheath longitudinally. If the sheath is incised properly the vas will pop up as a smooth lily-white tube. Hold this with another vas forceps and release the first forceps. The vas is now pulled up easily for about an inch length.

It can be seen now, a thin mesentery like structure attached to its inner side.

In this mesentery lies its artery and nerve. Fine mosquito forceps is used to separate this thin mesentery and therby its vessels.

Vas is now excised after ligation of both ends. Usually 3-5 mm. of vas is removed.

Crushing, thin and tight ligature is avoided.

Chromic, '0' catgut is preferred for ligature.

Assure complete haemostasis before skin closure.

Push the cord inside it's position, skin is closed with one or two silk sutures.

Skin can be closed with plain or chromic catgut and some people even do not put any stitches. The edges are crushed together. We advocate using non absorbable because the acceptor has to return for removal of stitches and thereby follow-up is assured.

POST-OPERATIVE COUNSELLING:

Vasectomy client can go home after some rest at the clinic. It is a good practice to ask the client to rest at the clinic for two hours.

Immediately after vasectomy one is not sterile. He must use contraceptive if he wishes to have sexual intercourse. Otherwise the sperm beyond the ligation will pass through during ejaculation and can cause pregnancy.

It has been estimated that sperm can survive upto 10 to 12 ejaculations. So the client must be supplied with 12 condoms and advised to use it during act of coitus.

(more)

INSTRUCTIONS OF DISCHARGE:

- Take the medicine prescribed by the doctor
- (A course of antibiotics and analgesics)
- Use tight under pant or a scrotal support for 7-8 days
- Return for stitch removal between 5-7 days
- Do not disturb the dressing
- Use condoms, as directed
- Any problem, report immediately.

Appendix E

BAVS HANDBOOK ON MEDICAL/SURGICAL EMERGENCIES IN VS

HAND BOOK
ON
MEDICAL/SURGICAL
EMERGENCIES IN V.S.

BANGLADESH ASSOCIATION
FOR
VOLUNTARY STERILIZATION

Hand book

On

Medical/Surgical

Emergencies in V.S.

A bavs medical publication. - 1979

INTRODUCTION

BAVS, during its six years of existence has established itself as a leading exponent of Voluntary Family Planning organization in the field of Surgical Contraception in Bangladesh. During this period BAVS has extended its clinical service to 24 centres all over the country; has performed 75,000 sterilizations, trained 430 physicians, 150 paramedics and 40 Counsellors in addition to extensive Education Information activity in Voluntary Service.

Our transition through this period has not been an easy one. In fact, it has been difficult, tough and problematic but at the same time challenging. To date Bangladesh has more than 350 facilities that offer Voluntary sterilization. Voluntary Sterilization is the number one and leading method of Family Planning in the National Program. But at the same time we ought to be very cautious as there are so many centres who will be rendering service. Unless the quality of service is controlled and precaution is taken, the service might earn bad reputation. Out effort in this direction is to devise medical and surgical guidelines for Voluntary Sterilization service delivery which, if followed, will ensure quality and safe service.

It is our experience that inspite of all precautions, there might be some unforeseen and unexpected complications in relation to operation procedures. This we call Medical/Surgical emergency. Unless the clinical staff are aware of these emergencies, it is not possible to tackle the situation effectively and speedily. For this reason the staff ought to be familiar with the equipments needed to tackle the emergency.

This guideline enumerates the basic emergency equipments, their maintenance and their optimum utilization along with common need and surgical problem that can arise during the procedure, and their prevention. A chapter is also included on all the important drugs that are needed with their safe usage. A chapter also describes standard methods of resuscitation.

(more)

I hope that this manual will be beneficial to them who are actively involved in the Surgical Procedure.

CHAPTER ONE

Basic equipments must be present in operating room, irrespective of major and minor surgery and types of anesthesia. No surgeon should perform any operation without the presence of those equipments. Before surgery all equipments must be in proper working order.

BAVS basic equipment list:-

1. Oxygen therapy equipment
2. Airway tubes
3. Suction apparatus
4. Laryngoscope
5. Endo-Tracheal tube
6. Resuscitator
7. Laparatomy Set
8. Torch light and dry cells

1. Oxygen Therapy equipments

   a. Oxygen Cylinder

   The cylinder is made of metal and are of different size and capacity. The one which is available in BAVS clinic is of 48 cft capacity. The button of the cylinder is concave and the top end is narrow where pressure regulator assembly can be attached for regulation of flow of oxygen through the flow meter. The cylinder opening can be closed or opened with the help of opener.

   b. Pressure reducing assembly

   This assembly unit has a pressure gauge, which gives the indication of the oxygen pressure when the cylinder valve is opened. Pressure can be raised upto 2000 mark maximum.

   c. Flow meter unit

   The flow meter is attached to pressure reducing assembly. The flow meter incorporates a fine adjustment control valve. The flow meter has a flow rate range of 1 L/Min to 15L/Min and a flushing facility of 55L/Min.

(more)

The controlled output of O_2 can be passed directly to patient through a rubber tubing connection or through a face mask connected to the tubing nipple.

2. Airway Tube

This is the tube used for keeping the Airway clear, when a patient is unconscious or in deep sleep normal air passage can be obstructed by dropping of the lower jaw and falling back of tongue. At the same neek is flexed. Whereas care is taken to keep the airway open, patient might succumb due to lack of air. One of the best easy ways to keep the airway open is to insert an Airway tube.

Application of airway tube is important. Must use the curve of plate and avoid pushing the tongue back during insertion of airway tube.

Picture of Airway tube

Resuscitator

are manually operated ventilation device - consists of

1. Self refilling bag
2. A valve to prevent re-breathing and
3. A Face Mask

(more)

The mask is held in left hand and applied tightly to patient face to prevent air leakage. The same hand is used to extend the head and neck and support the jaw to maintain and open air passage. With the other hand the bag is squeezed to force air into patient lung. Expiration is passive due to elasticity of chest muscle and diaphragm. There is a system of supplementary oxygen connection.

Suction Apparatus

This is a device used to suck any fluid, secretion or Cough from throat, Larynx and trachea.

There are several types of suction; Manual - hand or foot operated or electrical. One suction apparatus must be present in any Operation Room.

Airway can be obstructed by secretion, vomitus and cough. Unless facilities for sucting out the airway is available, Oxygen therapy, mouth to mouth breathing, will not be helpful.

Laryngoscope is also essential during the time of sucking the trachea off its secretion.

Endotracheal Tube

This is a tube used for intubation of patient for mechanical ventilation such as during general anesthesia and during instituting mechanical respiration in a critically ill and unconscious patient. The tube is curved with an inflatable cuff near the distal end for preventing any sipage from the top. The proximal end is connected with the respirator.

Laparotomy Set

Every operation theatre for Tubectomy operation have set of instrument which must ever ready for operation so that in case of any unexpected situation, if Laparatomy is required can be performed without a delay of single second with the following instrument:-

1. Retractor - 02
2. Long Straight Artery Forcep-02
3. Babcock - 02
4. Needle Holder - 01
5. Directive Forcep - 02
6. Mayos Scissor - 01
7. Towel Clip - 04
8. B.P. Handle - 01
9. Mosquito Forcep - 04
10. Tissue Forcep - 02
11. Small Cutting Scissors - 01
12. Small Artery Forceps - 01
13. Syringe (10 C.C.) - 02
14. Needle (Hypodermic) - 01

(more)

CHAPTER TWO

This chapter will discuss the common problems arising during the process i.e. from premedications, during operation and post operative period:-

A. PREMEDICATION:

1. Due to Inj. Pethidine Hydrochlor

   * Respiratory arrest
   * Hypotension
   * Nausea or vomiting
   * Prolong comma
   * Restlessness and Convulsion

2. Due to Inj. Atropine Sulphate

   * Slight Drowsiness
   * Rise of temperature which may be dangerous to febrile patients
   * Intravenous atropine may cause multifocal ventricular ectopic beats.

3. Due to Antibiotics

   * Anaphylactic shock - Severe fatal shock may occur
   * Urticanial skin rashes

4. Accidental injection of wrong drugs

B. DURING OPERATION PROCEDURE:

* Anaphylactic shock due to local Anaesthesia, drowsiness, convulsion Hydrocortisone is drug of choice.
* Respiratory arrest
* Bleeding subcauteneously, Inferior Epigastric Artery and Mucle.
* Injury to urinary bladder, Intestine and ementum etc.
* Injury to broad ligament leading to bleeding
* Injury to ovary
* Lossing the peritoneal margin during closing

(more)

C. DURING POST OPERATIVE PERIOD:

* Respiratory problem
* Restlessness
* Urinary retention
* Paralytic Ileus
* Hypotension along with brady cardia
* Hypotension along with other signs of shock i.e. vaso constriction tachy cardia and cyanosis
* Post Operative pain - Simple Analgesic may be prescribed
* Post operative vomitting - patient should be kept in lateral position, Anti emetic drugs may be used.
* Infections like Streptococcal, Cl. Tetany etc. - strict asepsis is only precaution.
* Post operative thrombo embolism - The patient should move from time of gaining full conciousness.

D. PREVENTION:

The screening of acceptors is important single step in prevention of possible problems and complications. The client should be questioned and examined very carefully about:

* General Health
* Mental and Psychological state (Anxious, lethergic, unconcious, semi-concious etc.)
* Smoking habit
* Drug habit
* Febrile condition - Clients should be apyreial state for 7 days
* Asthma
* Productive or non-productive cough, movement of chest with respiration, sign of sputum retention, lower airway obstruction, signs of lungs collapse, signs of pneumothorax or plueral effusion, etc.
* Dependant cedema, nonturnalddyspnoea or dyspnoea on exertion, Angina Pectoris, cyanosis.
* Blood pressure - should be taken while patientiis sitting at rest. Postural hypotension will occur in anemic patient.
* Heart rate, Rhythm, size along with any sign of cardiac failures should be looked for. In case of any abnormality no case should be operated until medically treated.
* History of Acute or chronic Bloodloss
* Tumors in neck, Jaw, Tongue may obstruct respiratory passage

(more)

* Patients state of Hydration - Such as elasticity of skin, moist coated tongue, sunken eye increased thirst, scanty urine etc. should be looked for. In our country like insensible fluidless is 1.70 litres per day which is 1/30 total body fluid. The patients who are undertaking considerable difficult journey on foot should not be operated just on arrival in the clinics. They should be provided with rest and food before any preparation for operation. There are another thing surgeon must look for is that most of the women are putting on heavy clothing (Burka). These clothing should immediately be removed on reporting. This may cause profuse sweating unless proper rest and food is ensured, there is fair chance of appearance of clinical signs of dehydration. There will be embarassed renal function resulting scanty thick urine and uraemia.

  1) Heat exhaustion - Haemoconcentration & Dehydration
  2) Heat cramps - Pain in General
  3) Heat Stroke - It is due to inaddition to salt deplitions there will be oedema of brain with dearrangement of heat regulation centre.

* Nurritional State - Operation should not be done on a patient with less than 45% Hb because there will be bleeding tendency, problems in blood coagulation, delayed healing.
* Jaundice - There will be coagulation problem along with intoxication of drugs also exaggration of heptic condition.
* Systemic disease - TB, Diabetis, Malaria, Black Water Fever, Hypertension, patients with psychot opic drugs, patient on cortison should be screened out or treated. Operation is not possible untill they are guarded properly.
* Skin Condition - The abdominal skin should be healthy. In case of infected skin the patient should be adviged properly.
* History of Hypersensitivity and Allergy should be carefully elicited. The drugs which may cause such reaction should be trsted its sensitivity prior to injection of full dose as a routine.
* Lab. Investigations:

  - Blood for T.C., D.C. Hb% is less than 45% no operation should be done unless the anaemia is corrected. In differential count if Eosinophil Count is more than 15% it should be treated prior to any surgical procedure (normal 0 - 1%).
  - Urine for Albumin or Sugar - Presence of sugar in urine indicates diabetis mallitus and presence of protein in Urine indicates loss of protein due to disease of kidney. In these cases the patient should be properly investigated for diabetes and protein loss. Special precaution should be taken prior to operation.

(more)

* Per Vaginal Examination -

1. To detect urethral discharge by applying mid pressure against symphasis pubis, Ca Urethra, stress incontinence etc
2. For any discharge - Slight bluish discharge indicates early pregnancy, it may be bloody or purulent.
3. For Cx erosion, Ca, tear, discharge
4. For pregnancy, Fibromyoma, Endometrosis
5. For Cystic ovarian tumor, enlarged tender ovaries, in Endometrosis overy.
6. For any other swelling of Pelvis.

CHAPTER THREE

IMPORTANT DRUGS

All the important drugs that needed and givingrise to situations in chapter two will be discussed in this chapter. These drugs are important tools and full understanding of their properties for the precise and effective purposeful utilization are required. These drugs are:-

1. Atropine Sulphate:

a) Description - It is an alkaloid. Its principali actions: To block transmission of nerve at post ganglionic nerve ending, at which the transmitter is acetylcholine. Thus it blocks the parasympathetic nervous system. Its action are as follows:-

a) CNS - has little actions on CNS although it may cause drowsiness. There may be slight rise of temperature.

b) CNS - Small dose causes Bradycardia but premidicant dose will inhabit vagal tone thus it increases heart rate. Higher dose may causes changes in E.C.G. (Mutifocal ventricular ectopic beats) increased atrial pressure and cardiac output.

c) G.I.T: Decreased peristalsis, Tone and Secretion.

d) Exocrine gland - All exocrine secretion except milk is diminished and dry mouth due to supression of salvary secretion is a common feature.

e) Eye - It dilates the pupil but normal dose, does not increase intraoccular pressure.

(more)

f) Respiratory System - It relaxes bronchial muscle causing small increase in deadspace. Bronchial secretion are reduced by atropine but secretion may be thick and tanaecious.

g) Urinary Tract - Relaxes smooth muscle.

Intoxication - Mostly destroyed in liver but some is excreted unchanged - through kidney.

Route of Administration:

1. Oral - in which case it acts within about an hour.
2. I.M. - It works about half hour, reaching at the peak within about an hour.
3. I.V. - Effect on heart is immediate but effect on secretions develops less rapidly. Increase cardiac output will only last for 1½ hr. but effect on heart rate is more prolonged.

Dose:

0.5 - 0.6 mg in all routes.

Pethidine Hcl:

Pethidine is a commonly used synthetic morphine-like analgesics. It has shorter duration of action than morphine and causes less euphoria and sleepiness. It may depress respiration but unlike morphine it causes relaxation of smooth muscle. There may be hypotension, nausea and vomitting. It is 1/10 as powerful as morphine and is an addict forming drug.

Side-Effects:

Pethidine may cause - Prolcng coma, Restlessness
Convulsion
Respiratory failure.

Routes of Administrations:

Pethidine may be given orally, I.V. & I.M. for pre-operative or post-operative management.

Metabolism:

80% of pethidine is normally degraded in liver and rest passed through urine.

(more)

Dose:

1 mg./kg. of body wt. i.e. approx. 50 - 100 mg.

Anti Histamines (Phenargan)

Antihistamines acts by opposing the action of histamine :-

1. Opposing the action of histamines
2. Usually they have depressant action on CNS but many cause stimulant to CNS.
3. They have also quinidine like and weak anaethetic action.

Metabolism

Usually absorbed alimentary tract and detoxicated in liver.

Route of Administration

1. Orally - 0.5 mg/kg two hours before operation
2. IM - 0.25 mg/kg one hour before operation or IV

Local Anaesthetics:

1. Lignocaine (Xyloçaine/Lidocaine)

A very stable anaesthetic with a quicker onset of action and a duration of 1 - 2 hours.

1% Solution is sufficient for sensory nerve block, 2% solution for motor nerves and 5% paste may be used for lubricating endotracheal tube to minimise the unwanted cough during intubation.

Dose - 3 mg/kg (200 mg. for adult)

Toxic effect - Cardiac depression

* Drowsiness
* Unconciousness
* Convulsions

This can be treated by giving 100% O_2 therapy, by injecting muscle relaxants and artificial ventillation till it desappears.

Diazepam (5 - 10mg I.V) will also control the convulsion but may cause respiratory depression.

(more)

PROCAINE:

The procaine was the first synthetic local anaesthesia but it is toxic for infiltration anaesthesia. But it is an important drug for subarachnoid block largely for its action is only one hour. More than 5% will cause nerve damage.

HYDROCORTISONE (Solucortef, oradexone)

The hydrocortisone or corticosteroids are used in many conditions such as Anaphylactic reaction, Angioneurotic oedema, Asthma, Urticaria, Hodgkins, disease etc. There are different types of corticosteroids such as prednisolone, Dexamethasone triamcinolone, Hydrocortisone hemisuccinate etc.

Side effects -

1. Cause sodium & H_2O depletion.
2. Produce muscular weakness.
3. Causes gastric irritation.
4. Depresses adrenal cortex.

The corticosteroid has an obvious place in treatment of emergencies but that should be justified.

NALLORPHINE HCI (Lethidrone)

This is purely narcotic antagonists. It is closely related to morphine. It is not only antagonise the respiratory depresent action of morphine group of drugs but also other actions too. In large dose it may itself cause respiratory depressant.

Doses - 5 - 10 mg. for an adult.

NARCAN: Naloxone hydrochloride (0.4 mgm per ml.)

Respiratory Stimulants:

1. Aminophylline - 500 mg. in 20 ml. water I.V. or infusion. It is a bronchodilator, Cardiac stimulant and has Diuretic action.
2. Adrenaline 1:1000 Subcutaneously (0.2 - 0.3 ml.)
   It is advocated for hypoxia as it may cause tachycardia.
   It acts as bronchodilator.
3. Nikathemide - 100 mg. 1.M/IV. It acts directly on the respiratory centres at medulla.

(more)

I.V. Fluids:

This can be considered in 3 headings:-

1. Maintenance of normal physiological balance
2. Correction of Electrolyte balance.
3. Replacement of blood volume.

Actions: Narcan is an essentially pure narcotic antagonist in the absence of narcotics or agonostic effects of other narcotic antagonists it exhibits essentially no pharmacologic activity.

Choice of Fluid:

The fluid loss during operation is extracellular fluid and therefor a balanced electrolyte solution should be given i.e. lactated ringe solution - 130 m eq Na, 5 M Eq K, 110 M Eq cl', 30 MEQ Lactate per litre. The aim should be to maintain normal fluid level post operatively. Approx. requirement is 3 litres per day. This amount should be enough to maintain 30 - 50 ml of urine per hour.

In case of severe blood loss this loss is preferably filled up by blood or plasma or any other plasma volume expander. In case where above fluid is not available electrolytic solution may be used.

Contraindications:

1. The failing heart.
2. Pulmunary congestion.
3. Hypertension.
4. Poor renal function.

Aid to Maintain Correct fluid Balance:

1. Maintain fluid intake and out put chart.
2. Circulatory over loading - This will be indicated by raised jugular venous pressure.
3. Blood Indices -
   a) Plasma protein
   b) Hb%
   c) Blood Electrolyte
4. Clinically - warm, dry, pink, and elastic skin.

(more)

Site for Contineous I.V. Fluid

The lower end of cephalic vein of left hand in Rt. handed patient is the best site. The site should never be over a joint. So that the patient can use the right hand freely after operation. Another advantage of caphlic vein is that it lies just beneath the skin. If this site is used, possibility of splinting is reduced or may be avoided as the arm itself will act as splint.

CHAPTER FOUR

TREATMENT OF COMMON PROBLEMS

The problems which creats maximum to clients and during the procedure are as follows. This chapter will discuss and guide the surgeon and auxillary staff for early diagnosis and treatment of such conditions:-

1. Anaphylactic Shock:

If a patient collapses following injection of drug, the prompt administration of hydrocbrtisone hemisuccinate in a dose of 100 mg I.V. will usually prevent death. If this not available immediately, Adrenaline 1:1000 may be given as alternative I.M. or Subcutaneously. In anaphylaxis rapid treatment is the way to prevent tragedy, I.V. infusion, adrenaline, antihistamine, cortisone etc. is the answer.

2. Respiratory Failure:

Respiratory failure is a term used to describe a state in which the patient is not breathing or not breathing effectively.

Types:

1. Depression
2. Obstruction
3. Obstruction & Depression Combined

} Patient makes some efforts for respiration.

4. Arrest - effort is made but no air exchange.

(more)

Signs:

1. Dyspnoea at rest and central cyanosis is cardinal clinical features
2. Hypoxia, cough, Hyperactivity of accessory muscles of respiration.
3. Hypercapnia (Muscle twisking, mental confusion, coma).

The diagnosis may be confirmed by estimation of O_2 & CO_2 tension and the PH of Blood.

Treatment:

The respiratory failure must be treated energetically. This is a medical emergency.

The therapeutic problem in this case are 4 fold

1. To clear airway passage of secretion
2. To increase alveolar ventillation
3. To increases O_2 Content of blood
4. To treat the complications.

Concious Patient:

1. Encourage coughing to expel out sputum to clear the airway.
2. O_2 Therapy - Controlled O_2 therapy may be started
3. Chlorpromazine - It may be injected I.M. in restless patient opiates and Burbiturates should be avoided.

Confused and drowsipatient (Moderate Respiratory Failure)

1. Bronchioles should be cleared of secretion by suction through Brochoscope or mop the secretion by a sponge holding forceps.
2. Respiratory stimulants : Nikethemide 2 - 4 ml. combined with ? 500 mg. must be injected I.V.
3. O_2 Therapy - Controlled O_2 therapy be given.

Severe Respiratory failure (Semi Concious or Comatose)

1. Clear the airway at once with a bronchoscope
2. Drugs: Nikethemide - 5-10 ml. Nikethemide I.V.
3. Controlled O_2 therapy or intermittent positive pressure O_2 therapy.

Intermittent O_2 therapy will be applied when controlled O_2 therapy fails. Treatment of complications which precipited respiratory failure should be started stat.

(more)

Cardiac Arrest:

This is an condition cardiac standstill or it is condition when heart do not work.

Cause:

1. General Anaethesia
2. Following operation
3. Druing special diagnostic procedure
4. Drug toxicity or sensitivity
5. Myocardial Infarction
6. Heart block
7. Electrocucition

Diagnosis:

1. Absence of carotid and femoral pulse
2. Absence of cardiac sound
3. ECG - Ventricular asystole or ventricular fibrillation

Treatment:

The aim of treatment is to restore oxyganated blood flow to vital organs i.e. brain, heart etc.

1. Smart blow on the chest and elevate the legs to 90° for 15 sec.

Then the heart may start beating and both carotid and femeral pulsation will return.

2. Resuscitation:

a) Closed chest cardiac message by compressing the heart between spinal column and sternum at the rate of 60 - 70 min. with the production of femoral and carotic arterises.

(more)

b) Mouth to mouth breathing - This process is to be done by extending the jaw forward keeping the patient flat on the mattress from the mouth to patients mouth at the rate of 18 - 20/min. gently.

c) Venticular defibrillator may be applied.
d) Aderanaline - 0.5 ml. of 1:1000 I.V. or Intracardiac.
e) Bicarbonate 150 m Esq. in Ist 10 mins. to combat acidosis.
f) Occassional entry of needle into heart gives good result.

3. Electro Cardiography to establish the cause of arrest.
4. Explored cardiac message - Manual Cardiac message on compression directly on the heart.

Shock:

Shock is a combination of threat to existence and response of body to this threat.

Types of Shock:

1. Vaso vagal attack, Neurogenic shock, psychoginic shock - sudden fright, severe paidy (blow on testis).
   The shock ranges from sudden fear to death.
2. Haemorrhagic shock - Compound fracture, reptuted spleen, Malaena due to bleeding peptic ulcer, Ectopic pregnency, postoperative reactionary bleeding etc.
3. Burns - Due to rapid loss of plasma.
4. Bacillus coli (Intestinal) - Multiplication of Bacillus coli in strangulated hernia, Mesentric, thrombosis) and in peritonitis.
5. Dehydration, Diarrhoea and Vomitting - This is due to severe extra cellular fluid loss usually associated with infection and loss of protein.

(more)

6. Plural, Mediastinal, Retroperitoneal shock: Sudden leakage of blood and alimetary secretion into those compartment will cause shock.
7. Bacteraemic Shock - Gass Gangrene is typical example causing decreased blood volume also anaemia from Homolysis.
8. Anaphylaetic shock - These are usually following an injection i.e. Serum, Penicillin or local Anaesthesia etc. There will be wide dilation of splanic vessel with consequential fall of venous return and cardiac output.

Clinic Features:

1. Patient lies still paying little or no attention to the events around him.
2. Pupil are dilated and reacts poorly to light.
3. Pallor dueless subcautaneous blood.
4. Beads of sweat to forehead and upperlip.
5. Pulse - Thready and Rapid.
6. Subnormal temperature.
7. Blood pressure lowered.
8. Urine reduced in amount.with high Sp. gravity.

Treatment:

The aim of treatment should be removal of cause and replacement of blood volume.

* In haemorrhage: Arrest of haemorrhage and blood transfusion.
* In Burn: Loss of plasma should be replaced by plasma or dextran.
* In Bacillus coli or speticaemic shock - removal of lesion and blood transfusion.
* In Neurogenic, Vaso Vagal & Psychogenic shock - IV Phenobarbitone 60 to 100 mg. or Paraldehyde 5 - 10 ml. 1m may be given in frightened patient.
* Position of limp - Raise the foot end and compress the limb to reduce the pooling of blood to large muscles of limb.
* Relieve pain - Inj. Morphine 10 - 15 mg. (1/6 - 1/4 g.) I.M. or IV.
* Vaso contrictors - Noradrenaline 4 mg/Litre.
  Hydrocortisone hemisuccinate - 100 mg. in I.V. drip.

In case where blood is not available readily any I.V. fluid such normal saline, Detrose saline and Detrose in aqua may be used.

(more)

CHAPTER FIVE

STANDARD METHODS RESUSCITATION

In emergencies the heart and lung tend to work in a unit where there is cardiac failure, both pulmunary resuscitation may be required. Thus respiratory failure rapidly leads to cardiac failure & Vice versa. There are several methods of resuscitation of sinking patients.

1. Mouth to Mouth Breathing - The patient should be kept flat on the back pull the jaw forward to straightening the respiratory tract obliterating the angle between mouth and pharynx. Then place the operators mouth on patients mouth so that the lung is expanded. The rate should be between 16 - 20 times per minute. If this can be done effectively the vital organ can be kept alive for longer period.

Advantage - One operator can perform but two will perform effectively.

2. Closed cardiac Message: By compressing heart between sternum and vertira by sufficient pressure to produce femoral and carotid pulse. This should be continued till ECG is available. If venticular fibrillation is present - Difibrillator may be used if fails intra cardiac injection of Lignocaine or 250 mg. planocaine or 5 ml or 10% Nacl may be injected intra cardiac.

3. Manual Resuscitation - a) Here the patient is placed like that of mouth to mouth breathing, clean the airway then fix the mask of the on the face thumb and Index finger and other fingers gripping the chair.

b) Inflate one lung by squeezing bag with the otherhand.
c) Observe rise and fall of chest for proper ventillation
d) Coordinate manual resuscitation with voluntary effort.

Subsequent Management

1. Ventillation - At an earliest possible moment on the arrival of expert help endtracheal tube should be passed and mechanical ventillation started.

   Open Cardiac Message.

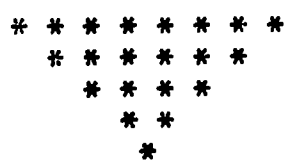
(more)

Medicines for Resuscitation

1. Adrenaline (1:1000)
2. Hydrocortisone
3. Noradrenaline
4. Antidote of Narcotics - (Narcan, Lethidrone)
5. Aminophylline
6. Lignocaine/Procaine
7. Normal saline/Destrose saline/Destrose in aqua
8. Destran
9. Digitabs.

CONCLUSIONS:

In the previous chapters we have tried to inform the doctors who are engaged in the field of Family Planning Activity specially sterilization operation about the probable chance of both Medical and Surgical problems arising during operation procedure. This is an effort to remind the possible problems and its management to minimise the fertility in sterilization operation. Thus popularising the sterilization operation as choice of contraceptive.



Appendix F

BAVS SAMPLE ADMISSION RECORDS FOR MALE AND FEMALE STERILIZATIONS

BANGLADESH ASSOCIATION FOR VOLUNTARY STERILIZATION

FEMALE STERILIZATION

Serial Number :

Date of Admission :

1. PATIENT'S CHARACTERISTICS :

(A) NAME (In block letter)	AGE	EDUCATION	PROFESSION	MONTHLY INCOME
Patient :				Tk.
Husband				Tk.

Father's Name and Address :

PATIENT'S ADDRESS :

☐ Rural : Vill : Union : P. O :

P. S : District :

☐ Urban : Road No : House No : Area :

P. S : District :

The Age of the patient (first) get married :

The Age of the patient when she had her first baby :

2. OBSTETRIC HISTORY

PREGNANCY'S OUTCOME	SON	DAUGHTER	TOTAL	ABORTIONS	NUMBER
Live births :				Spontaneous	
Children died :				Induced	
Now living :				Other	
Still births :				TOTAL	

A. Last Pregnancy's Outcome ☐ Live birth ☐ Still birth ☐

Abortion (Specify) : _____

B. Date last Pregnancy ended : _____

C. Age of the last living child : _____

D. Sex of the last living child : ☐ Male ☐ Female.

3. Contraceptive practice (prior to three months) before this sterilization : ☐ None ☐ Oral pills ☐ I. U. D. ☐ Injectable ☐ Condom ☐ Foam ☐ Withdrawl ☐ Rhythm ☐

Other (specify) _____

4. How did the patient first learn about BAVS clinic/camp ? ☐ News paper ☐ Radio ☐ BAVS staff ☐ Aya/Dai ☐ F.P. worker ☐ Doctor ☐ Other (specify) : _____

5. Most important person in patient's decision to choose sterilization : ☐ Self ☐ Husband ☐ Friend ☐ Relative ☐ F.P. worker ☐ Doctor ☐ Other (specify) : _____

6. Primary reason for choosing sterilization : ☐ Other methods not available : ☐ Other methods not reliable ☐ Contraceptive failure ☐ Undesirable side effects : ☐ Other (specify) : _____

7. Referal source : ☐ Self ☐ Husband ☐ Other (specify) : _____

Name & Address or referer : _____

_____

8. HISTORY OF PAST ILLNESS, TREATMENT & RESULT OF TREATMENT

Diseases	Qualification of the attending physician	Result of Treatment

9. IMMUNIZATION : (Put a Tik whether Yes or No)

Diseases	Yes	No	How many times before this arrival
Cholera			
Small Pox			
B. C. G.			
D. P. T/Tetanol Toxoid			
POLIO			

Name of the interviewer (in block letter) : _____

Designation : _____

3. INFORMED CONSENT
(For Illiterate Acceptor)

আমি _____ এইমর্মে সত্যায়ন করিতেছি যে জনাব _____ স্বতঃ স্ফূর্ত ভাবে _____ করাইতে ইচ্ছুক। আমি এই ব্যাপারে নিম্নবর্নিত বিষয়গুলি বিশদ ভাবে ব্যাখ্যা করিয়াছি এবং তিনি তাহা বুঝিতে পারিয়াছেন :

১। সাময়িক জন্ম নিয়ন্ত্রণ পদ্ধতি সমূহ সহজলভ্য এবং রোগী পরিবার পরিকল্পনা গ্রহণের জন্য উহা ব্যবহার করিতে পারেন।

২। বন্ধ্যাকরণ এক ধরনের অস্ত্রোপচার।

৩। বন্ধ্যাকরণ অপারেশনে সামান্য বিপদের ঝুঁকি আছে এবং আমি তাহা যথাযথ ভাবে ব্যাখ্যা করিয়াছি।

৪। নির্বীজ করণের নিশ্চয়তা না থাকিলেও অপারেশন যদি সফল হয় তাহা হইলে রোগীর আর কোন সন্তানাদি হইবে না।

৫। বন্ধ্যাকরণ অপারেশন স্থায়ী এবং একবার উহা করাইলে পুনরায় সন্তান জন্ম দিবার ক্ষমতা ফিরাইয়া দেওয়া যাইবে না।

৬। রোগী যে কোন সময়ে বন্ধ্যাকরণ (অপারেশন) না করাইবার স্বপক্ষে তাহার সিদ্ধান্ত পরিবর্তন করিতে পারেন. কিন্তু এই কারনে স্বাস্থ্য, চিকিৎসা বা অন্যান্য সুযোগ সুবিধা হইতে তাহাকে বঞ্চিত করা যাইবে না।

_____
কাউন্সেলর/চিকিৎসকের স্বাক্ষর

তারিখ _____

_____
রোগীর স্বাক্ষর/টিপসহি

তারিখ _____

_____
সাক্ষীর স্বাক্ষর

INFORMED CONSENT
(For Literate Acceptor)

আমি নিম্ন স্বাক্ষরকারী_____পদ্ধতিতে বন্ধ্যাকরণ করাইতে ইচ্ছুক। নিম্নবর্ণিত অতঃবা বিষয়গুলি বিস্তারিত ভাবে জানিয়া এবং বুঝিয়া স্ব-প্রণোদিত হইয়া আমার উপর অস্ত্রোপচারের অনুমতি প্রদান করিতেছি :—

১। পরিবার পরিকল্পনার নিমিত্ত-বন্ধ্যাকরণ ব্যতিরেকে অন্য যে সমস্ত সাময়িক জন্ম নিয়ন্ত্রণ পদ্ধতি আছে তাহা আমি ব্যবহার করিতে পারি।

২। বন্ধ্যাকরণ এক ধরণের অস্ত্রোপচার এবং এ সম্পর্কে আমাকে বিস্তারিত ব্যাখ্যা দেওয়া হইয়াছে।

৩। বন্ধ্যাকরণ অপারেশনে বিপদের ঝুঁকি সম্পর্কেও আমাকে ব্যাখ্যা দেওয়া হইয়াছে।

৪। অপারেশন সফল হইলে আমার আর কোন সন্তান হইবে না।

৫। বন্ধ্যাকরণ অপারেশন একবার করাইলে পুনরায় সন্তান জন্ম দিবার ক্ষমতা ফিরাইয়া দেওয়া যাইবে না।

৬। আমি যে কোন সময়ে বন্ধ্যাকরণ (অপারেশন) না করার স্বপক্ষে আমার সিদ্ধান্ত পরিবর্তন করিতে পারি এবং এজন্য স্বাস্থ্য, চিকিৎসা বা অন্যান্য সুযোগ সুবিধা হইতে আমাকে বঞ্চিত করা হইবে না।

তারিখ_____

_____
রোগীর স্বাক্ষর

তারিখ _____

_____
সম্পাদনকারী চিকিৎসকের স্বাক্ষর

10. MEDICAL DATA

(A) Menstrual History :

i. Last date of mens _____ Length of Mens, cycle _____ days.

ii. Duration of flow _____ days,

iii. Amount of flow : ☐ Normal, ☐ Scanty ☐ Excessive

iv. Dysmenorrhea : ☐ No ☐ Mild ☐ Moderate ☐ Severe

v. Intra-Menstrual bleeding : ☐ No ☐ Staining ☐ Spoting ☐ Severe _____

vi. Meanarche : _____

11. EXAMINATIONS

Pulse _____ Resp _____ Temp _____ B. P. _____

Size of UT. _____ Cervix _____

P. V _____

Pregnancy if any : ☐ No ☐ Yes _____ Weeks.

Any systemic disease : ☐ No ☐ Yes (specify) : _____

Any addiction : No ☐ Yes (specify) : _____

Abdomen :

Liver : _____

Spleen : _____

Kidney : _____

Chest :

Heart : _____

Lungs : _____

Skin : _____

Papsmear : ☐ Normal ☐ Atypia ☐ Carcinoma in situ ☐ Not done

Breast : ☐ Normal ☐ Masses ☐ Galactorrhea ☐ Bleeding

Adnexa : ☐ Normal ☐ Abnormal (specify) : _____

Weight : _____ (KG/LBS) Height : _____ (Inch/Cms)

ANY OTHER FINDINGS : _____

Name of the outpatient Medical Officer : _____

(In block letter)

Date : _____

OPERATION NOTES : (To be filled up only by the operating surgeon)

A. VITAL SIGNS :	Pulse.	Temp.	Resp.	Blood pressure
Before Operation :				
After Operation :				

Pre-Operative additional Notes : _____

B. Pre-Operative Findings :

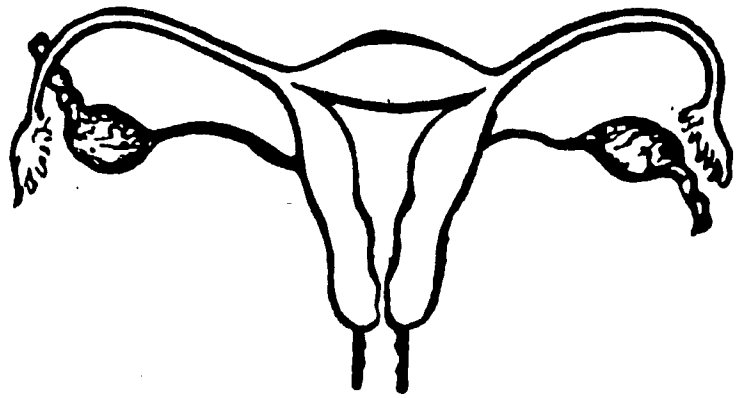
i. Abdomenal : _____

ii. Vaginal & Perineal : _____

iii. Cervix (Swabing with spirit) : _____

C. Anaesthesia : ☐ General ☐ Local ☐ Analgesia ☐ Local + Analgesia

OPERATIVE FINDINGS :



(D) PROCEDURE : (Specify technique) : _____

(E). COMPLICATIONS IN SURGERY : ☐ No ☐ Yes (Specify) : _____

ADDITIONAL NOTES RELATING STERILIZATION : _____

Date of Operation _____ Time (Incision to Closure) : _____ Minutes

EXCESSIVE BLOOD LOSS RELATING STERILIZATION : ☐ No ☐ Yes

If yes, was blood transfusion given ? ☐ No ☐ Yes _____ OZ.

Name & Designation of the Operating Surgeon : _____

(in block letter)

Assisted by : _____

Swab and instruments Count by : _____

O.T. Supervision by Sister : _____

DOCTOR'S ORDER SHEET

ADMISSION SERIAL :_____ BED NO._____

POST OPERATIVE ORDER :

_____

_____

_____

_____

_____

_____

_____

_____

Signature of the Surgeon :_____

DISCHARGE NOTES :

Pulse :_____ Resp :_____ Temp :_____

B. P :_____ Flatus :_____

Bowel sound :_____ Drink/food :_____

Stool :_____ Urine :

Condition of the patient (including degree of mobility)

_____

_____

Condition of wound :_____

Additional Notes :_____

_____

_____

Date & Time of Discharge : Date :_____ Time :_____

Name of the Doctor :_____

(in block letter)

NURSE'S RECORD SHEET.

NAME OF THE PATIENT : _____ BED NO : _____

DATES	VITAL :	TIME				
	SIGNS :					
	PULSE :					
	RESP :					
	TEMP :					
	B. P :					
	PULSE :					
	RESP :					
	TEMP :					
	B. P :					
	PULSE :					
	RESP :					
	TEMP :					
	B. P :					

DATE	SIGNS	TIME		
	BLEEDING FROM WOUND :			
	P/V. BLEEDING :			
	STOOL :			
	URINE :			
	BLEEDING FROM WOUND :			
	P/V. BLEEDING			
	STOOL :			
	URINE :			
	BLEEDING FROM WOUND :			
	P/V. BLEEDING :			
	STOOL :			
	URINE :			

TREATMENT GIVEN :

DATE :	PARTICULARS (Medicine/Injection etc.)	Signature of Sister

1. PATIENT'S CHARACTERISTICS :

NAME (in block letter)	AGE	EDUCATION	PROFESSION	INCOME
Patient :				
Wife :				

Father's Name & address :

PATIENT'S ADDRESS :

☐ Rural : Vill : _____ Union : _____ P.O : _____

P.S : _____ District : _____

☐ Urban : House No : _____ Road No : _____ Area : _____

P. S : _____ District : _____

The Age of the patient (first) get married : _____

Number of living wives : _____

2 WIFE'S FERTILITY HISTORY :

PREGNANCY'S OUTCOME	SON	DAUGHTER	TOTAL	ABO...	NUMBER
Live Births :				Spo...	
Children died :				...	
Now living :					
Still births :				TOTAL	

Last Pregnancy's outcome : ☐ Live birth ☐ Still birth

☐ Abortion (specify) : _____

Date last pregnancy ended : _____

Sex of the last living child : ☐ Male ☐ Female

Age of the last living child : _____

Date of wife's last Mense Onset : _____

Contracsptive methods used (prior to three months) before this Operation : ☐ Name

☐ Condom ☐ Withdrawl ☐ Foam ☐ Oral pill by wife ☐ IUD by wife ☐ Other

(specify) ; _____

Primary resson for choosing this Sterilization : ☐ Other methods not available ☐ Other methods not reliable ☐ Contraceptive failure ☐ Undesirable side effect ☐ Other (Specify) : _____

How did the patient learn about BAVS Clinic : ☐ Radio ☐ Newspaper ☐ BAVS Staff ☐ F. P. Worker ☐ Health staff ☐ Friend/Relation ☐ Other (Specify) : _____

Beferal Source : ☐ Self ☐ Wife ☐ Other (Specify) : _____

Name & Address of Referer _____

_____

Additional Notes : _____

_____

Name & Dasignation of Interviewer : _____

(Name in block letter) _____

3. INFORMED CONSENT
(For Illiterate Acceptor)

আমি_____এইমর্মে সত্যায়ন করিতেছি যে জনাব/জনাবা_____স্বতঃস্ফূর্ত ভাবে_____করাইতে ইচ্ছুক। আমি এই ব্যাপারে নিম্নবর্ণিত বিষয়গুলি বিশদভাবে ব্যাখ্যা করিয়াছি এবং তিনি তাহা বুঝিতে পারিয়াছেন।

১। সাময়িক জন্ম নিয়ন্ত্রণ পদ্ধতি সমুহ সহজলভ্য এবং রোগী পরিবার পরিকল্পনা গ্রহণের জন্য উহা ব্যবহার করিতে পারেন।

২। বন্ধ্যাকরণ এক ধরণের অস্ত্রোপচার।

৩। বন্ধ্যাকরণ অপারেশনে সামান্য বিপদের ঝুঁকি আছে এবং আমি তাহা যথাযথ ভাবে ব্যাখ্যা করিয়াছি।

৪। নির্বীজ করণের নিশ্চয়তা না থাকিলেও অপারেশন যদি সফল হয় তাহা হইলে রোগীর আর কোনো সন্তানাদি হইবেনা।

৫। বন্ধ্যাকরণ অপারেশন স্থায়ী এবং একবার উহা করাইলে পুনরায় সন্তান জন্ম দিবার ক্ষমতা ফিরাইয়া দেওয়া যাইবে না।

৬। রোগী যে কোন সময়ে বন্ধ্যাকরণ (অপারেশন) না করাইবার স্বপক্ষে তাহার সিদ্ধান্ত পরিবর্তন করিতে পারেন, কিন্তু এই কারণে স্বাস্থ্য, চিকিৎসা বা অন্যান্য সুযোগ সুবিধা হইতে তাহাকে বঞ্চিত করা যাইবে না।

তারিখ.....
কাউন্সেলর/চিকিৎসকের স্বাক্ষর

তারিখ.....
রোগীর স্বাক্ষর/টিপসহি

তারিখ.....
স্বাক্ষীর স্বাক্ষর

INFORMED CONSENT

(For Literate Acceptor)

আমি নিম্ন স্বাক্ষরকারী _____ পদ্ধতিতে বন্ধ্যাকরণ করাইতে ইচ্ছুক। নিম্নবর্ণিত জ্ঞাতব্য বিষয়গুলি বিস্তারিত ভাবে জানিয়া এবং বুঝিয়া স্বপ্রণোদিত হইয়া আমার উপরে অস্ত্রোপচারের অনুমতি প্রদান করিতেছি :-

১। পরিবার পরিকল্পনার নিমিত্ত-বন্ধ্যাকরণ ব্যতিরেকে অন্য যে সমস্ত সাময়িক জন্ম নিয়ন্ত্রণ পদ্ধতি আছে তাহা আমি ব্যবহার করিতে পারি।

২। বন্ধ্যাকরণ এক ধরনের অস্ত্রোপচার এবং এ সম্পর্কে আমাকে বিস্তারিত ব্যাখ্যা দেয়া হইয়াছে।

৩। বন্ধ্যাকরণ অপারেশনে বিপদের ঝুঁকি সম্পর্কেও আমাকে ব্যাখ্যা দেওয়া হইয়াছে।

৪। অপারেশন সফল হইলে আমার আর কোন সন্তান হইবে না।

৫। বন্ধ্যাকরণ অপারেশন একবার করাইলে পুনরায় সন্তান জন্ম দিবার ক্ষমতা ফিরাইয়া দেওয়া যাইবেনা।

৬। আমি যে কোন সময়ে বন্ধ্যাকরণ (অপারেশন) না করার স্বপক্ষে আমার সিদ্ধান্ত পরিবর্তন করিতে পারি এবং এজন্য স্বাস্থ্য, চিকিৎসা বা অন্যান্য সুযোগ সুবিধা হইতে আমাকে বঞ্চিত করা হইবে না।

তারিখ.....

_____

রোগীর স্বাক্ষর

তারিখ.....

_____

সত্যায়নকারী চিকিৎসকের স্বাক্ষর

4. SEXUAL HISTORY :

☐ Satisfactory ; Degree of satisfaction : ☐ Normal ☐ Less ☐ Excessive

☐ Unsatisfactory : (Specify reason) : _____

5. GENERAL EXAMINATION :

Pulse : _____ Resp : _____ Temp : _____ Blood pressure : _____

Heart : _____ Lungs ; _____ Height ; _____ Weight : _____

Liver : _____ Lymph Gland : _____ Oedema : _____

6. LOCAL EXAMINATION :

Skin Condition : _____ General : _____

_____ Scrotal : _____

Condition of Scrotum : ☐ Normal ☐ Tight ☐ Other : _____

Hernia/Hydrocele/Varicocele/Spermatocele : ☐ None ☐ Yes _____

Condition of Spermatic Cord : ☐ Thick ☐ Tender ☐ Other : _____

Enlarged & Tender Epydidymis : ☐ No ☐ Yes : _____

Absent/atrophied Testis : ☐ No ☐ Yes : _____

7. MEDICAL HISTORY :

History of any Medical trouble since two weeks ☐ No ☐ Yes (Specify) ; _____

History of any past Surgery : ☐ No ☐ Yes (specify) : _____

Any drug addiction : ☐ No ☐ Yes (specify) : _____

History of any Alergy : ☐ No ☐ Yes (specify) : _____

History of Diabetes mellitus : _____

History of blood dyscrasia : ☐ No ☐ Yes.

LOCAL :

Injury to Scrotum/testis : ☐ No ☐ Yes (specify) : _____

Operation on scrotum/Testis : ☐ No ☐ Yes (specify) : _____

Excessive pain to Scrotum/Testis : ☐ No ☐ Yes : _____

Hernia/Appendix Operation : ☐ No ☐ Yes : _____

Swelling of Scrotum/Testis ; ☐ No ☐ Yes : _____

8. OPERATION NOTES :

Anaesthesia : ☐ General ☐ Local ☐ Analgesia ☐ Local+Analgesia

Type of Incision : ☐ Single vertical ☐ Single horizontal ☐ Double-Horizontal ☐ Double vertical

☐ Other (Specify) : _____

Sterilization Teqnique : _____

Length of Vas resected : _____ m. m. ☐ Not resected

Method of Vas Occlusion : ☐ Silk ☐ Chromic Catgut ☐ other : _____

Abnormal findings if any : _____

Difficulties in Surgery : _____

Surgical times (Incision to clossure) : _____ Minutes.

Any Other Surgery Concurrent this Sterilization : ☐ No ☐ Yes (specify) _____

_____

Additicnal Notes relating to Sterilization : _____

_____

9. IMMEDIATE COMPLICATIONS :

Injury to testicular/artery/Pampiniform plexus : ☐ No ☐ Yes

Haematoma of Scrotum : ☐ No ☐ Yes, additional IV fluid given ☐ not given

Anaesthesia Complication : No ☐ Vomiting ☐ Other : _____

Pain during procedure : ☐ No ☐ Mild ☐ Moderate ☐ Severe

Additional Notes : _____

_____

Prophylactic anti-biotics given : ☐ None ☐ Systemic ☐ Both

Name of the Operating Surgeon _____

(NAME in block letter)

Assisted by : _____

Date : _____

_____
Signature

বাংলাদেশ এসোসিয়েশন
ফর
ভলান্টারী স্টেরিলাইজেশন

ট্রেডম্যার্ক রেজিস্ট্রেশন করা-আপ ফরম

ভর্তি ফরমের ক্রমিক নং _____

অপারেশনের তারিখ : _____

এই ফলো-আপের তারিখ : _____

ফলো-আপের বৈশিষ্ট্য : ☐ ৭—২১ দিন, ☐ ৬ মাস, ☐ এক বৎসর, ☐ দেড় বৎসর বা তদুর্দ্ধ

১। রোগীর নাম : _____ স্বামীর নাম : _____

২। ঠিকানা : গ্রাম : _____ ডাকঘর : _____ ইউনিয়ন : _____

থানা : _____ জিলা : _____

৩। অপারেশনের স্থান : ☐ ক্লিনিক, ☐ ক্যাম্প (উল্লেখ করুন) : _____

৪। অপারেশনের পদ্ধতি : ☐ মিনিল্যাপ, ☐ ল্যাপারোস্কোপ, ☐ কালডোস্কোপ, ☐ কলপোটমী ☐ অন্যান্য (উল্লেখ করুন) : _____

৫। ফলো-আপের স্থান : ☐ ক্লিনিকে, ☐ বাড়ীতে, ☐ ক্যাম্প (উল্লেখ করুন) : _____

৬। সাক্ষাতের কারণ : ☐ নির্ধারিত ফলো-আপ, ☐ জরুরী প্রয়োজন।

৭। অপারেশনের পরে আপনার কোন অসুবিধা হয়েছিল কি ? ☐ হাঁ, ☐ না

(ক) যদি অসুবিধা হয়ে থাকে, তাহলে কি অসুবিধা ? (উল্লেখ করুন) : _____

(খ) উল্লিখিত বা অন্য কোন অসুবিধার জন্য পুনরায় আপনি হাসপাতাল/ক্লিনিকে ভর্তি হয়েছিলেন কি ? ☐ হাঁ ☐ না

(গ) যদি ভর্তি হয়ে থাকেন তাহলে কত দিন/রাত্রি থেকেছিলেন (উল্লেখ্য) : _____

৮। এখন কি আপনি আগের মতোই সংসারের কাজ-কর্ম করতে পারেন ? ☐ হাঁ, ☐ না

(ক) না পারলে, প্রধানতঃ কি অসুবিধার জন্য পারেন না ? (উল্লেখ্য) : _____

৯। আপনি কি আপনার চেনা-জানা কাউকে এই অপারেশনের জন্য পরামর্শ দিয়েছেন ? ☐ হাঁ ☐ না

পরামর্শ দিয়ে থাকলে, আপনার কথা মতো কেউ অপারেশন করিয়েছে কি ? ☐ হাঁ ☐ না

১০। মন্তব্য : _____

_____

ফলো-আপ কারীর নাম : _____ পদবী : _____

তারিখ : _____

[এই পৃষ্ঠার প্রশ্নমালা সমূহ প্রাথমিক (৭-২১ দিন) ফলো-আপ পেসেন্টের জন্য প্রযোজ্য নয় কিন্তু দীর্ঘমেয়াদী (৬ মাস হইতে তদূর্ধ্ব) পেসেন্টের জন্য অবশ্য জিজ্ঞাস্য]।

১১। অপারেশনের পরে আপনি স্বামীর সঙ্গে মিলিত হয়েছিলেন কি। ☐ হাঁ, ☐ না।

(ক) মিলিত হলে, অপারেশনের কতদিন পরে ?_____দিন। মিলনে আগের মত আনন্দ পান কি ?
☐ হাঁ, ☐ না, ☐ আগের চাইতে কম, ☐ আগের চাইতে বেশী।

(খ) যদি মিলিত না হন, তা হলে কি অসুবিধার জন্য পারেননি (উল্লেখ করুন)

১২। আপনি যখন অপারেশন করান তখন কি আপনার বাচ্চা বুকের দুধ খেত ? ☐ হাঁ, ☐ না।

(ক) এখন কি আপনার বুকের দুধ বন্ধ হয়ে গেছে ? ☐ না ☐ হাঁ ☐ পুনরায় বাচ্চাকে বুকের দুধ খাওয়াতে চাই।

(খ) অপারেশনের কত দিন/মাস পরে বুকের দুধ বন্ধ হয়ে গেছে ?_____দিন/মাস।

গর্ভধারণ এবং মাসিক সংক্রান্ত প্রশ্নমালা :

১৩। অপারেশনের পরে আপনি গর্ভবতী হয়েছিলেন কি ? ☐ হাঁ, ☐ না।

(ক) গর্ভবতী হলে কত দিন/মাস/(উল্লেখ করুন) :_____ ☐ সন্তান ভূমিষ্ঠ হয়েছে,
☐ গর্ভপাত ঘটেছে, ☐ মৃত সন্তান প্রসব, ☐ সন্তান জন্মাবার পর মারা গেছে

১৪। অপারেশনের পরে আপনার মাসিক (ঋতুস্রাব) হয়েছে কি ☐ হাঁ, ☐ না

(ক) হলে, কত দিন/মাস পরে :_____দিন/মাস। এবং কতবার হয়েছে ?_____বার

(খ) মাসিক-চক্র (Average length of cycle) :_____দিন

(গ) মাসিক-প্রবাহ (Average duration of flow :_____দিন

(ঘ) মাসিক-স্রাবের পরিমাণ (Amount of flow) ☐ স্বাভাবিক, ☐ খুব কম, ☐ অত্যাধিক।

(ঙ) মাসিক-স্রাবের সময় ব্যথা (Dysmenorrhea) : ☐ না, ☐ অল্প, ☐ মাঝারী ☐ তীব্র।

(চ) আন্ত-মাসিক রক্ত-স্রাব (Intra-menstrual bleeding) : ☐ না, ☐ অল্প, ☐ মাঝারী, ☐ অত্যাধিক।

১৫। সর্বশেষ মাসিকের তারিখ :_____

অর্থনৈতিক, পারিবারিক এবং সামাজিক :

১৬। অপারেশন করিয়ে আপনি কি সন্তুষ্ট হয়েছেন ? ☐ হাঁ ☐ না।

(ক) যদি সন্তুষ্ট না হন, তাহলে কেন (উল্লেখ করুন) :_____

১৭। আপনি কি মনে করেন অপারেশন করানোর পরে নিম্নলিখিত বিষয়ে কোন পরিবর্তন হয়েছে ?

(ক) অর্থনৈতিক : ☐ উন্নতি হয়েছে ☐ অপরিবর্তিত ☐ অবনতি ঘটেছে

(খ) স্বামীর সঙ্গে সম্পর্ক (পারিবারিক) : ☐ উন্নতি হয়েছে ☐ অপরিবর্তিত ☐ অবনতি ঘটেছে।

(গ) সামাজিক অবস্থা : ☐ অপরিবর্তিত ☐ উন্নতি ☐ অবনতি ঘটেছে।

মন্তব্য :_____

_____

ফলো-আপ কারীর স্বাক্ষর :_____ পদবী_____

তারিখ :_____

MEDICAL DATA

(To be filled up only by the person concerned)

FOR SHORT TERM (7-21) FOLLOW-UP USE ONLY

18. Condition of Wound : ☐ Healed up ☐ Swelling ☐ Discharge ☐ Bleeding ☐ Pain
☐ Other (specify) : _____

a) If discharge (Specify) : _____

b) Infections if any : ☐ No ☐ Slight ☐ Moderate ☐ Severe

Additional Notes relating infection : _____

_____

_____

19. Injection Site :

a) L/R deltoid (intramascular) : ☐ Normal ☐ Swelling ☐ Pain ☐ Discolouration

b) L/R Caphalic Vein (Intravenous) : ☐ Normal ☐ Swelling ☐ Pain ☐ Discolouration

20. Any other findings : _____

_____

_____

FOR LONG TERM (6 month-24 months) Follow-up

21. Weight : _____ Blood Pressure : _____ Hematocrit : _____

Signature of Doctor

Date : _____

22. COMPLICATION OR INCIDENTS SINCE STERILIZATION :

23. Pelvic Surgery : ☐ No ☐ Yes (specify reason) : _____

24. Systemic diseases : ☐ No ☐ Yes (specify) : _____

25. Wound Complication : ☐ No ☐ Yes, if yes, please check following items :

a) Pain : ☐ No ☐ Mild ☐ Moderate ☐ Severe

b) Drainage : ☐ No ☐ Yes.

c) Suture problem : ☐ No ☐ Yes.

d) Keloid : ☐ No ☐ Yes.

e) Seperation : ☐ No ☐ Yes.

f) Other (Specify) : _____

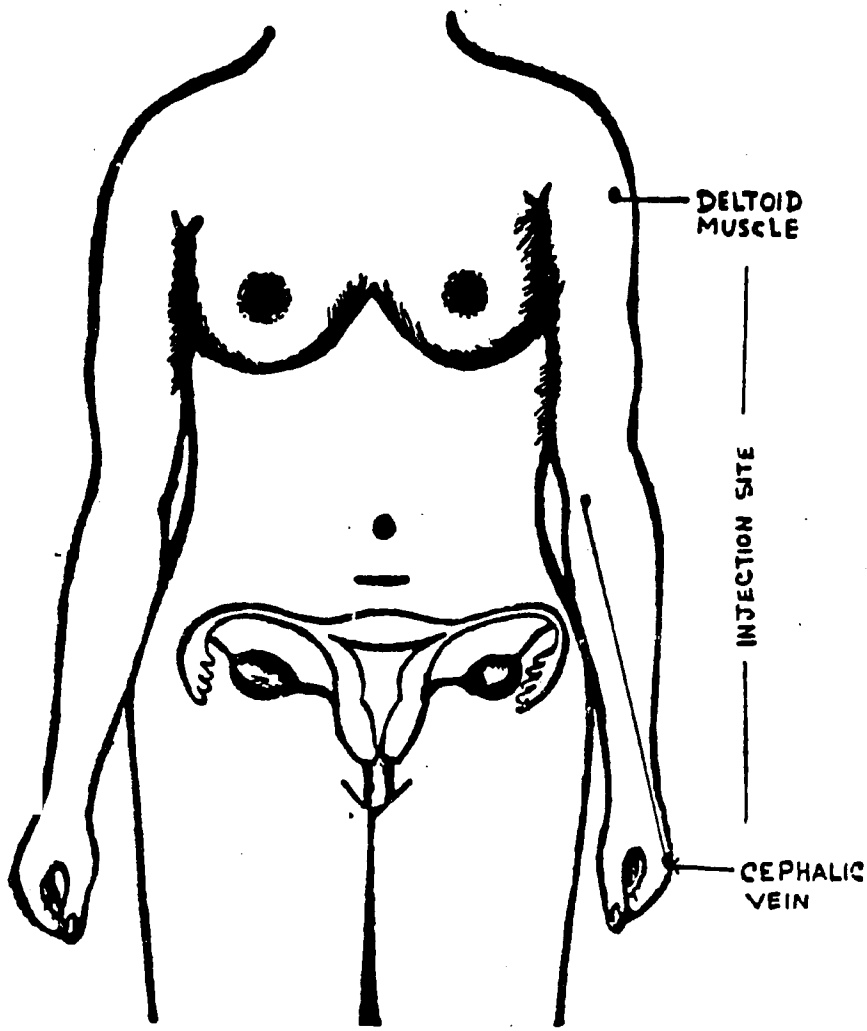
26. Pelvic or back pain at the time of follow-up visit : ☐ No ☐ Yes, (specify) : _____

a) If pain : ☐ Mild ☐ Moderate ☐ Severe

b) Etiology of pain : ☐ unknown ☐ unrelated to Surgery ☐ related to Surgery

27. Re-admission related to surgery : ☐ No ☐ Yes. for _____ Nights

PHYSICAL EXAMINATIONS :



28. Breast : ☐ Normal ☐ Masses ☐ Galactorrhea ☐ Bleeding ☐ Combination ☐ Other (specify) : _____

29. Adnexa : ☐ Normal ☐ Abnormal (Specify) : _____

30. Uterus : ☐ Normal ☐ Abnormal (Specify) : _____

31. Cervix : ☐ Normal ☐ Abnormal (Specify) : _____

32. Pelvic infection : ☐ No ☐ Yes (Specify) : _____

33. Papsmear : ☐ Normal ☐ Atypia ☐ Displasia ☐ Carcinoma in situ ☐ Invasive Carcinoma ☐ other (Specify) : _____

34. Pregnancy Signs ☐ No ☐ Yes (Specify if currently) : _____ weeks :

Signature of Doctor.

Date : _____

ফলো - আপের বৈশিষ্ট ঃ ☐ ৭-২১ দিন ☐ ৬ মাস ☐ ১ বৎসর ☐ ১½ বৎসর বা তদূর্ধ্ব

১। নাম ঃ_____ পিতার নাম ঃ_____

২। ঠিকানা ঃ গ্রাম/গৃহ নং_____ ডাকঘর/সড়ক ঃ_____

ইউনিয়ন ঃ_____ থানা ঃ_____

জিলা ঃ_____

৩। অপারেশনের স্থান ঃ ☐ ক্লিনিক ☐ ক্যাম্প ☐ (উল্লেখ্য) ঃ_____

৪। ফলো-আপের স্থান ঃ ☐ ক্লিনিক ☐ বাড়ীতে ☐ ক্যাম্প (উল্লেখ্য) ঃ_____

৫। সাক্ষাতের কারণ ঃ ☐ নির্ধারিত ফলো-আপ ☐ জরুরী চিকিৎসা

৬। অপারেশনের পরে আপনার কোনো অসুবিধা হয়েছিল কি ? ☐ না ☐ হাঁ

(ক) অসুবিধা হলে, কি কি অসুবিধা ? (উল্লেখ্য) ঃ_____

(খ) উল্লিখিত অসুবিধার কারণে আপনি পুনরায় ক্লিনিক বা হাসপাতালে ভর্তি হয়েছিলেন কি ?

☐ না ☐ হাঁ। হলে, কতদিন সেখানে ছিলেন ?_____ দিন/রাত

৭। সংসারের কাজকর্ম কি আগের মতোই করতে পারেন ? ☐ হাঁ ☐ না

না পারলে, প্রধানতঃ কি অসুবিধার জন্য পারেন না (উল্লেখ্য) ঃ_____

৮। আপনি কি আপনার চেনা-জানা কাউকে ভ্যাসেক্টমী করাতে পরামর্শ দিয়েছেন ? ☐ হাঁ ☐ না

(ক) পরামর্শ দিয়ে থাকলে, আপনার পরামর্শ মতো কেউ অপারেশন করিয়েছে কি ? ☐ হাঁ ☐ না

(খ) পরামর্শ না দিলে, কেন দেননি (উল্লেখ্য) ঃ_____

৯। অপারেশনের পরে স্ত্রী সহবাস করেছিলেন কি ? ☐ হাঁ ☐ না

না' হলে, কেন পারেন নি (উল্লেখ্য) ঃ_____

১০। মন্তব্য ঃ_____

_____

_____

ফলো-আপ কারীর নাম ঃ_____ পদবী ঃ_____

বিঃ দ্রঃ অপর পৃষ্ঠার ১১ থেকে ১৭ নং প্রশ্ন ৭-২১ দিনের ফলো-আপে জিজ্ঞাস্য নয়

১১। আপনি যদি স্ত্রী সহবাস করে থাকেন, তাহলে কি আগের মতো আনন্দ পান?

☐ হাঁ ☐ আগের চাইতে কম ☐ আগের চাইতে বেশী ☐ যৌন অনুভূতি নেই

১২। ভ্যাসেক্টমী করাবার আগে আপনার মনে কোনো দ্বিধা ছিল কি? ☐ না ☐ হাঁ,

থাকলে উল্লেখ করুন: (ক) মনো-সামাজিক: ☐ লোক-লজ্জা ☐ ধর্ম-ভয় ☐ সমাজ চ্যুতির ভয়

☐ মৃত্যু ভয় ☐ সন্তানের মৃত্যু ভয় ☐ যৌন ক্ষমতা কমে যাবার ভয় ☐ নপুংসক হবার ভয় ☐ স্ত্রীর

কাছে ছোট হবার ভয়। ☐ অন্যান্য: _____

(খ) দৈহিক: ☐ ব্যথার ভয় ☐ অধিক রক্তপাতের ভয় ☐ কর্মক্ষমতা কমে যাবার ভয়

অন্যান্য উল্লেখ করুন: _____

১৩। এখন আপনার মনে কোনো প্রতিক্রিয়া হচ্ছে কি? ☐ হাঁ ☐ না। হলে, উল্লেখ করুন ☐ পাপ করেছেন

☐ নিজের পরিবারের জন্য ভালো কাজ করলেন ☐ সমাজের চোখে ছোট হয়ে গেছেন

অন্যান্য (উল্লেখ করুন): _____

১৪। এর আগে কখনো ফলো-আপ করাতে এসেছিলেন? ☐ না ☐ হাঁ।

হলে, কতবার _____ বার

১৫। আপনার ভ্যাসেক্টমী হবার পর আপনার স্ত্রী গর্ভবতী হয়েছিল কি? ☐ না ☐ হাঁ

গর্ভবতী হলে কি ভাবে বুঝতে পারলেন? ☐ মাসিক বন্ধ ☐ গর্ভ সঞ্চারের লক্ষণ সমূহ দেখে

☐ ডাক্তারী পরীক্ষা করে ☐ অন্যান্য (উল্লেখ্য): _____

১৬। ভ্যাসেক্টমী করাবার পর কোন সন্তান হানি হয়েছে কি? ☐ হাঁ ☐ না

১৭। আপনি কি ভ্যাসেক্টমী করিয়ে সন্তুষ্ট? ☐ হাঁ ☐ না

না হলে কারণ কি? _____

১৮। দৈহিক পরীক্ষা (ডাক্তার কর্তৃক): Medical Examinations. (সব ফলো-আপে প্রযোজ্য):

(ক) অপারেশনের স্থানের অবস্থা? ☐ সেলাই জোড়া লেগে গেছে ☐ লাগে নাই ☐ ফুলে আছে

☐ রক্ত ঝরছে ☐ অন্যান্য: _____

(খ) ব্যথা: ☐ খুব বেশী ☐ মাঝারি ☐ মৃদু ☐ কোন ব্যথা নেই

(গ) কোনো সংক্রমন: ☐ নাই ☐ সামান্য ☐ বেশী

সংক্রমন সংক্রান্ত তথ্য: _____

(ঘ) অন্যকোন অসুবিধা (বিস্তারিত উল্লেখ্য): _____

১৯। বীর্য পরীক্ষা: ☐ করা হয়নি ☐ করা হয়েছে (সংখ্যা উল্লেখ্য): _____ বার

(ক) পূর্বে কতবার স্ত্রী সহবাস করেছে: _____

(খ) পরীক্ষার ফলাফল: (উচ্চ শক্তি সম্পন্ন মাইক্রোসকোপিক ফিল্ডে) শুক্রকীটের সংখ্যা: _____

(গ) কোন জীবিত শুক্রকীট: ☐ নাই ☐ আছে

(ঘ) রোগীকে সামগ্রিক ভাবে নির্বীজ বলা যায় কিনা ☐ হাঁ ☐ না

চিকিৎসকের স্বাক্ষর: _____ প্যাথোলজিস্টের স্বাক্ষর: _____

Appendix G

FAMILY PLANNING PHYSICIAN TRAINING CURRICULUM

APPENDIX G

SIR SALIMULLAH MEDICAL COLLEGE

LECTURE PROGRAMME OF FERTILITY CONTROL TRAINING

DATE	TOPICS	SPEAKERS
17-7-80	Population Problem, Policy and Demographic Aspect	Dr. Shafiqur Rahman, Director, NIPORT, Azimpur, Dacca
18-7-80	Pharmacology of Contraceptive Drugs	Prof. Gulam Mustafa, Prof. Pharmacol., IPGM, Dacca
19-7-80	Physiology of Male & Female Reproductive Organs and Mechanisms of the Action of Hormonal Contraceptives	Dr. Shorab Ali, Asso. Prof. of Physiology, Dacca Medical College, Dacca
21-7-80	Anatomy of the Male & Female Reproductive Organs	Dr. Farukh Ahmed, Asso. Prof. Anat., SSMC, Dacca
22-7-80	Contraceptive Techniques and Practices and Advanced Methods of Fertility Control	Prof. T.A. Chowdhury, IPGM, Dacca
23-7-80	Steps of Female Sterilization	Prof. Mukhlessur Rahman, Project Administrator, Humaira Syed FPMC, DMC, Dacca
24-7-80	Steps of Male Sterilization, Pre- and Post-operative Management and Complication Management	Prof. A.T. Siddique, Prof. of Surgery, SSMC, Dacca
25-7-80	Asepsis and Sterilization	Dr. Farida Huq, Head of Microbiological Lab, IPH
26-7-80	Pre and Post Operative Management of Minilaparotomy	Prof. Suraiya Jabeen, Project Administrator, FPMC, Mitford Hospital, Dacca
28-7-80	Patient Handling and Counseling	Dr. Md. Hedayetul Islam, Assoc. Prof. Psych., SSMC, Dacca
29-7-80	Anaesthesia	Dr. Md. Shafiqur Rasul, Assoc. Prof. Anesthesiology, SSMC, Dacca
30-7-80	Management of Tubectomy Operation Room	Dr. Momena Khatun, Medical Officer, FPMC, Mitford Hospital, Dacca
	Evaluation of the training of each individual trainee.	Prof. Suraiya Jabeen, Project Administrator, FPMC, Mitford Hospital, Dacca

LECTURE TIMING: 9:00 A.M. to 10:00 A.M. (thereafter O.T. & follow-up activities). In between there shall be film shows on Minilap/Vasectomy/MR and other methods. Trainee doctors are requested to attend the lecture programme without fail.

(Dr. Mrs. Suraiya Jabeen)
Project Administrator

Appendix H

MANUAL FOR STERILIZATION OPERATIONS
(DRAFT)

D R A F T

MANUAL FOR STERILIZATION OPERATIONS

GENERAL INSTRUCTIONS

1. Male and Female sterilization must be voluntary. The operating surgeon has the personal responsibility to see that the following points are made clear to the client in the language the client can understand:

   i) Sterilization is a surgical procedure;

   ii) The procedure is permanent and irreversible;

   iii) Alternative methods of contraception are ava ilable.

   iv) Finally, the patient must make a clear and unequivocal declaration that he or she is not influenced by a-ny inducement or coercion in choosing sterilization. A permission obtained without this explanation has no validity. The surgeon will counter-sign the consent form only after he has made sure that this requirement has been satisfied. (Consent form is the part of case sheet)

2. A case sheet record will be maintained for each patient. This will contain a record of pre-operative and post-operative examinations (as described below), an operative note and a recor of follow-up visits.

3. Acceptors of tubectomy or vasectomy normally will come through the FWA/FPA to facilitate identification and follow-up/after care. Cases reporting direct or through some other agency may be entertained provided their identification, genuineness and follow-up are assured. Operating surgeon and agency concerned shall be responsible for this.

4. Only one partner, the husband or the wife will be sterilised and never both. This must be ensured by the FPA/FWA or the identifier and counter checked by the operating surgeon.

5. No sterilization will be performed unless the acceptor has at least two living children, both over one year old.

6. The acceptors will be treated with utmost proficiency, care and empathy. The doctor in-charge will be responsible to see that all personnel follow this instruction.

7. For a vasectomy, the physician (Surgeon) and the supporting staff will be paid a sum of Tk. 15/- (fifteen) only and for a tubectomy Tk. 20/- (twenty) only.(Details in appendix II

8. Petty expenditure required for the purchase of soap, soda, kerosene oil etc for washing and auto-claving of linen and for the management of the operating centre will be met out of PL account up to the limit of actual cost, in observance of financial rules.

9. Under exceptional circumstances, life saving drugs and infusion fluid may be purchased when not available in the stock on the specific prescription/certification by the physician up to the limit of actual cost on case to case basis. Voucher/accounts will be maintained for this.

10. All payment and disbursements will be made on vouchers, bills and recorded in registers, etc as may be applicable, duly receipted/signed/thumb impressed. (Specimen copy appendix II) Full particulars, address including postal address and the address of the referer in the case of an acceptor should be recorded.

11. Organizations having own hospital and clinic may provide sterilization services on the above principles and may be provided with monetary and logistics support on cash basis in lump sum/bulk provided that proper accounting to meet the audit needs is maintained and submitted to the PC & FP office from where such assistance is received.

12. Centres/Clinics functioning within the jurisdiction of the Thana will be serviced by the respective Thana office excepting in the case of mobile vessels such as the 'Niramoy' which will be provided with logistic support by the District office, Dacca.

13. Transportation charge, surgical apparel and any other compensatio-n provided to acceptors, will be uniform and no extra benefit will be provided in cash or kind by any Organization. Similarly there will not be any referral of follow-up fee to anybody referring the acceptors for sterilization operations or providing follow-up services except the amount by PC & FP Division.

14. Dais, FWA's, FPA's and FWV's will be entitled to re-emburaement of actual expenditure on account of travels in connectio-n with referral of case of sterilization and IUD from contingency under PL account. Travels beyond five miles for this purpose will be admissible under normal rules.

15. They will also be entitled to referral fee provide in the scheme (Tk. 3/- for organizations/Agencies, utilizating facilities made available by the PC & FP Division. Money surgical apparel M.S.R. etc will not provide additional benefits to the workers/staff or clients.

16. PC & FP staff should organize scheduling of operations so that acceptors do not report to the operating centre in large numbers in an unmanageable manner. Up to six tubectomies or 12 vasectomies per physician per day may be considered well manageable. The number of tubectomies should not exceed 12 and that of vasectomies 24 per physician per day.

17. The performance report will be submitted/collected by the Thana office/District office as the case may be. Care should be taken to avoid duplication in the matter of submission of report. (An uniform reporting form be developed by the Dte.) mentioning the referee, place of operation, name of the clinic etc).

MINIMUM STANDARDS FOR FACILITIES, PERSONNEL & SUPPLIES

Sterilization operations (tubal ligation and vasectomy) will be performed in Rural Health Centres, District Hospitals, Union Family Welfare Centres, Sub-divisional Hospitals, Medical College Hospitals, Maternal and Child Welfare Centres, model family planning clinics, hospitals run by railways, police, armed forces or private organizations and other institutions approved by the PC & FP Division

The Assistant Director, MCH/FP will be responsible for certifying that the facility is able to safely perform these procedures. This responsibility can be delegated to district and thana Medical Officers, if necessary. To certify a facility for performance of sterilization procedures, the responsible medical officer must determine that;

1. Adequately trained personnel are available;
2. The premises are clean and adequate light and water are available;
3. An adequate supply of sterile surgical instruments, drapes gloves and other supplies is available;
4. An adequate amount of the necessary drugs and other supplies is available;
5. Appropriate emergency drugs and equipment are available.
6. A reasonalbe shelter for post operative recovery is available;
7. Staff is available to provide necessary medical care during this time.
8. A clean and functioning toilet and a near by source of water are both available.

The following minimum standards must be met;

1. Personnel; Operations will be prrformed by specially trained medical doctors with the assistance of para-professional staff. Surgeons and all other personnel should be traiued to manage life threatening complications, particularly;
   - Respiratory arrest (by insertion of oral airway and mouth artificial respiratio-n)
   - Hypotension (by intraavenous drip of adrenaline, using 3cc of 1:1,000 adrenaline in 500c saline or dextrose and wa-ter)

~~Injection to local anaesthetic (by inserting [illegible] and control of convulsions with sedatives).~~

2. Any room which can be cleaned and washed with disinfectant will be adequate for operation theatre (OJ). ~~Electricity and running water are not necessary. A good flashlight should be available.~~

3. Any clean table large enough to accommodate the patient can be used. Supplies can be pre-sterilized and brought in a sterile pack or drum, or they can be sterilized on the premises with an autoclave using either electric or kerosene heat source.

4. The following specific sterile supplies will be needed:

Gloves
Surgeons gown, cap and mask
Drapes
Dressing
Cotton squabs
Pelvic speculum
Surgical instruments

(a) <u>For tubectomy</u> Coutainer- 1 (stain less steel) 10"x4½"x2½"

1.	Uterine elevator		1 some surgeon do not use
2.	Sponge holding forceps- 9½"		1
3.	Syringe with needle, 10cc		1
4.	Scalpel handle & blade		1
5.	Mosquito forcep		4
6.	Artery forcep 7"		2
7.	Right angled retructors 9"		2
8.	Scissors		2
	Dissecting (Mayo)	1	
	Stitch cutting	1	
9.	Babcock forcep		2
10.	Dissecting forcep		2
	Toothed	1	
	Non-toothed	1	
11.	Needle holder		1
12.	Suturing needle		3
	½ circle round body	1	
	Curved cutting	1	
	Skin needle (straight)	1	

(b) <u>For Vasectomy:</u>

Sponge holding forceps	1
Syringe with needle, 10cc	1
Scalpel handle & blade	1
Mosquito forceps	2
Scissors-stitch cutting	1
Dissecting forceps	2

Toothed 1
Non-toothed 1

Needle holder 1
Suturing needle
Curved cutting 2

Vas forceps (if available) 1
Allis forceps (if vas forceps not available) 1

5. Drugs and other supplies needed:

(a) For Preparation:

Soap
Shaving kit
Cotton

Iodine & savlon (or other disinfectant)

(b) For Pre-Medication:

Inj. Atropine 0.4 mgm (1/150 Grain) (Alternatively, 0-6 mgm (1/100 Gr. can be used)

Inj. Phenergan 50 mgm

(c) For operative Analgesia & Anesthesia:

Inj. Pethidine 50 mgm

(DO NOT GIVE PETHIDINE IV BECAUSE OF DANGER OF RESPIRATORY ARREST. GIVE 50mgm IM 30 min before operation)

Inj. Diazepam 10 mgm (Valium)

Local anesthetic- 1% Xylocaine is best.

(d) Expendable surgical supplies:

3'0' silk
1'0' Plain catgut/Ceramic catgut
Leukoplast

(e) Emergency supplies:

500 cc bags of 5% Dextrose with normal saline

Inj. Adrenaline 1 mgm per cc
(1:1,000 solution)

Oral airways (large and small size)

Hand or foot powered suction machine with tubing and catheters.

(f) Antibiotics- give tetracycline, 250 mgm, orally, 4 times daily for 5 days, start before the operation.

(g) For post operative analgesia:

Paracetamol 500 mgm.

(h) Miscellaneous supplies:

Sphygmomanometer
Stethoscope
Hemoglobinometer
Test tubes
Benedicts solution
Glacial Acetic Acid
Alcohol lamp
Clinical Thermometer
Flash light
Food for post operative patients and families
Urinary catheters
IL carrying stretches.

PREPARATION OF STERILE SUPPLIES

Autoclave:

This must be a steam tight chamber. At the bottom of the Chamber there is usually an electric element which heats the water to make the steam. The lid is heavy and has a rubber gasket and a pressu meter. Sometimes a kerosene or gasoline stove is used to provide heat. What can go wrong:

1. The chamber may leak-
any local welder can stop the leak

2. Heating element may not work-
Elements are usually damaged by the carelessness of the autoclave operator. The most frequent cause of damage is that enough water was not put into cover the element.

Solution- always use enough water
- replace the element if it is damaged
- substitute a kerosene stove as a heat source. Pressure stoves are needed, and a large size works best- This can only be done if the heating element can be removed.

3. The gasket can give problems- When it is not tight, steam will leak, enough pressure will not be generated and sterilisat -ion will not be perfect. Repair of gasket can be done at the district level and above.

4. It is essential that adequate pressure be maintained for at least 30 minutes. You can check the pressure by the pressure gauge on top of the autoclave.

Surgical Hard Ware:

Scissors- Both dissecting and cutting scissors are costly. If they are boiled, sharpness will be lost.

All sharp instruments are usually sterilized by immersion into Lysol or concentrated Dettol but they must be washed in water which has been boiled before use, otherwise the chemicals will cause injury to tissue.

All other surgical instruments can be sterilized by boiling or autoclaving but meticulous cleaning and drying of the instruments, after use, is essential.

Surgical Rubber Gloves:

After each operation the user should wash his gloved hands to remove blood and then take the Gloves off. O.T. Nurses must clean and put them under a fan or in an airy room until they are completely dry. Wet gloves should never be packed or powdered for autoclaving.

Method of Sterilization of Materials:

There are 3 conventional methods that are used:

1. Boiling in water: Time is counted from the start of vigorous boiling. At least 30 minutes is needed.

2. Autoclave: Exposure of materials to steam under pressure for a specified time and at a specified temperature and pressure.

3. Chemical sterilizers:

Commonly used are

1) Lysol sol
2) Empherin
3) Cidex
4) Dettol
5) Hibitane
6 Savlon

(1)

LINEN	METHOD
Surgeon gowns	Autoclaving
Abdominal sheets	Autoclave
Towels	Time- 30 min.
Trolley covers	Pressure- 20 lbs
Gauze & cotton	Temp.- 250°F

(ii)	INSTRUMENTS	Autoclave (as linens) Boiling- 30 min. from the time water starts boiling.
(iii)	SHARP INSTRUMENTS	Immersion- 30 min. in Lysol or Dettol
(iv)	RUBBER GOODS	
	Gloves	Autoclave as linens
	Catheters	Immersion- 30 min. in Zepherin or Savlon

NOTE: Gloves must be completely dried and powdered before they are restrilized, or they will stick together and be unusable.

PRE-OPERATIVE CHECK-UP

For Vasectomy: A complete but brief history and physical examination should be done to be sure there is no serious disease requiring treatment. Aside from local disease in the scrotum, history of abnormal bleeding or allergy to local anesthetics there are no specific contraindications.

For Tubectomy: A similar brief history and physical exam should be performed including a pelvic exam and a determination of the blood pressure. Pelvic infection and suspected tumors are contraindications. Pregnancy is a contraindication unless the pregnancy is terminated at the same time as the tubectomy operation. Hypertension is not a contraindication, since pregnancy is more dangerous in hypertensive women, but the blood pressure must be watched carefully during and after operation. Haemoglobin should be determined and the urine tested for glucose and albumen. If the haemoglobin is below 8 grams, the patient should take iron and folic acid for 6 weeks and return for operation after this. If the haemoglobin is between 8 and 11 grams give iron and folic acid for 6 weeks after operation.

If glucose is present in the urine, operation can be done unless it is 3+ or 4+. If 3+ or 4+, treat for diabetes and operate a few weeks later. If there is 3+ or 4+ albuminuria, this must be corrected before operation.

A case rejected on medical grounds will be paid Tk. 10/- as transportation cost. This payment can not be given to more than 4% of the total cases in a centre. They will be advised to take up other methods.

COMPENSATION TO ACCEPTORS

A woman should be given a piece of new saree after she is cleaned and prepared for the operation. This is for the maintenance of cleanliness to avoid post operative infection. A man should be given a piece of lungi before vasectomy to wear it likewise. A tubectomy case will be paid an amount of Tk. 35/- (thirty five) only as transportation charge and Tk. 30/- (thirty) only as food charge when food in kind is not provided by the Hospital/Clinic free of cost. This include food for are alterned). When diet is supplied by the Hospital/Clinic, the actual diet charge will be paid to the supplier through the Hospital/Clinic administratio-n on the presentatio-n of the bill duly authenticated by the Hospital/Clinic authority. Under no circumstances will there be double payments. A vasectomised case will be paid Tk. 30/- (thirty) only as transportation and Tk. 10/- (ten) only as food charge.

Clients rejected on Medical reasons may be paid Tk. 10/- as transport cost/ but not exceedingly 4% of the total operation performed.

VASECTOMY TECHNIQUE

Operation:

The scrotal operation with two longitudinal incisions on either side of the upper part of the scrotum is recommended.

Instruments:

The most important instrument is the Vasectomy forceps. Allis forceps can be substituted, but this requires a bigger incision than the vasectomy forceps. The vasectomy forceps is sharper than the Allis and has only one tooth with ajaw.

Pre and post operative Medications:

* Give tetracycline, 250 mgm, PO, 4 times daily for 5 days (20 capsules). Give Ist dose before the operation.
* Phonergan, 50 mgm IM, can be given to relax the patient.
* Give Paracetamol, 500 mgm, every 4 hours as needed for post operative paid.

Note: Injection ATS isnot necessary and can be dangerous. It should not be used.

Pre-operative preparation:

The client had taken a bath after which his scrotum is cleaned with non-irritant antiseptic solution like savlon. Strong antiseptic, iodine or spirit should not used because they cause severe irritation. After painting the scrotum, a vasectomy sheet is applied and the scrotum is delivered through a small hole in the vasectomy sheet. No taping of the penis is required.

Identification and Isolation of Vas

The vas on both sides should be palpated carefully. The utmost gentleness is practised to handle this very sensitive part. Pain and discomfort at this stage will induce spasm of the Cremaster and will cause retraction of the testicle making operation difficult. The vas of the selected side is manipulated to isolate and fix it under the skin in the most suitable position for incision. The thumb and index finger of one hand maintains gentle traction of the testicle downwards and the corresponding fingers of the other hand are used to manupulate the vas to bring it upwards and laterally. This will bring the vas away from the other structures in the cord. The cord is held in this position and is now superficial, just under the skin and dartos muscle. In a thin person it can be seen clearly under the skin. This manuever of of fixation of vas is the most important step in vasectomy. If this art is mastered, then vasectomy is a simple operation.

Injection of local:

In this position of fixation, local is injected into the skin and then close to vasal tissue. In all one needs only 1 to 1½ cc of local.

Incision: A skin incision of 1/3 to ½ of an inch is made directly over the vas where local is deposited, in the line of the vas. After the skin is cut, the dartos muscle is separated by fine mosquito forceps.

Lifting of vas: The Vas forceps or other tissue forceps is used to hold the vas. The vas forceps is introduced through the incision and the jaws are opened. The forceps is advanced over the vas to go behind the vas. Once the forceps is behind the vas its jaw is closed.

The vas is now pulled up, by the forceps just above the skin incision. It cannot be pulled further unless the sheath is incised.

Take the scalpel and incise the sheath longitudinally. If the sheath is incised properly the vas will pop up as a smooth lily white tube. Hold this with another forceps and release the Ist forceps. The vas is now pulled up easily for about an inch length. It can be seen now that there is a thin mesentry like structure attached to its inner side. The vas is now excised, after ligation of both ends. Usually 3-5 mm of vas is removed. Crushing, thin and tight ligatures are avoided Chromic 0 catgut is prefered.

Assure complete haemostasis before skin closure. After returning the cord to its normal position, the skin is closed with one or two silk sutures. The skin can be closed with plain or chromic catgut. Some people do not use any stitches. Use of non absorbable skin sutures (silk) is recommended so that the acceptors will return for removal of stitches and thereby follow-up is assured.

Post operative counselling:

Immediately after vasectomy he is not sterile. He must use contraceptives if he wishes to have sexual inter-course. Otherwise the sperm beyond the ligation will pass through during ejaculation and can cause pregnancy. It has been estimated that sperm can survive up to 10 to 12 ejaculations. The client must be supplied with 15 condoms free of cost and advised to use them during the act of coitus until they are used up.

Instructions of Discharge:

Take the medicine prescribed by the doctor (antibiotic and analgesic)

* Use tight under pant or a scrotal support for 7-8 days
* Return for stitch removal between 5-7 days
* Do not disturb the dressing
* Use condoms, as directed
* If there is any problem, report immediately.

Complications and side Effects:

1. Pain at the site of operation:

   This should be mild and disappear within a week. More severe pain and dragging sensation may indicate haematoma formation.

2. Bruising of skin will disappear by itself in a few days.

3. Post operative bleeding and infection:

   These require active treatment. Due to the looseness of scrotal skin, small persistant bleeding can cause a slowly enlarging haematoma. Absolute haemostasis should be secured. Care should be taken not to damage pampiniform plexus, vessels of the vas and skin vessels.

   All bleeding points should be securely ligated and bleeding stopped before skin closure. Risk of post-op bleeding can be minimised by ensuring rest for a while after operation and avoiding heavy manual work for two days

Treatment of hematoma depends on the size:

-- A small haematoma (less than 3 cm across) situated in superficial tissue layers, is managed by bed rest at home for a few days.

-- A large haematoma is usually due to accumulation of blood in the tissue plane around the tunica vaginalis or within it. In either case the swelling will obscure the body of testis and the skin will become tense and fluctuant. Large haematoma should be treated by immediate hospitalization and surgical evacuation of the haematoma under strict aseptic conditions. This procedure will minimise the chance of infection and resolution will be speedy. It is much better to open the wound and remove a large haematoma then to use a needle.

Infection is less common than haematoma and may complicate haematoma. In some cases local infection can occur at the site of the incision. Patients with swelling and tenderness should be treated with antibiotics for infection. If pus is formed surgical drainage will be required in addition to antibiotics.

4. Injury to the testicular artery has been reported and is a serious injury. It is very rare occurence, but if it does happen immediate specialist help should be obtained.

5. Long term complications:

- Secondary infection may occur several weeks after and may be associated with a tender lump at the state of incision. Usually this infection arises in a haematoma. If pain and swelling are severe, surgical drainage is needed.

- Orchitis and epididymitis can venereal disease. For this reason, operation should not be done until after these conditions have been treated and cured.

- Spermatic granuloma is rare, but can occur at the testicular end of the cut Vas.

If painful, it should be excised.

Follow-up:

Vasectomy cases should be checked in the RHCs/Clinics or followed-up by the FPA till the wound is healed. Removal of stitch is not necessary when no suture of absorbable suture is used.

In the event of delayed healing or any other complication the patient should be referred to the nearest hospital. Actual transportation cost will be met from PL accounts by the Thana Office concerned.

TUBECTOMY (TUBAL LIGATION)

The Minilap procedure using the Pomeroy technique is preferred. A uterine elevator inserted through the vagina can be used, but most experienced Surgeons find it unnecessary. The operation is much more acceptable to the patient if vaginal manipulations can be avoided, but a pelvic examination must be performed as a part of the preoperative check up.

Other techniques, using instruments such as the laproscope and the culdoscope, require special training. Those techniques are not described here. Chemical sterilization, with sclerosing agents such as Quinacrine is still an experimental procedure.

MINILAP TECHNIQUES

Preoperative preparation:

- The Accepted patient takes a cleansing bath.
- Blood pressure, pulse and respiration are recorded before operation and every hour for 4 hours afterward.
- No solid food for 6 hours and no liquids for 4 hours before surgery.
- Enema is given only when bowel has not moved satisfactority.
- Shaving or clipping of pubic hair is only to be done by expert personnel.
- A clean operating gown is supplied to each client.

All cases should receive prophylactic antibiotics or chemotherapeutics. Tetracycline 250 mgm 4 times daily starting before the operation and continued for 5 days should be prescribed unless there is a history of allergy to this drug.

Pre-medication:

Injection Phenergan 50 mg. Atropine sulph 1/150 gr. (0.4 mg) I.M. and Pethidine 100 mgm is given 30-40 minutes before the operation. Immediately before giving this medication she must void (pass urine) in order to empty the bladder. Catheterisation is strongly discouraged.

Intravenous alagesia is now given to relax the patient. Slow intravenous injection of Diazepan 10 mg. (Valium) should be given at least 3-5 minutes before the operation. Observe carefully to ensure that vital signs are stable. A repeat vaginal examination is performed to confirm previous findings.

Skin preparation, draping and position:

The anterior abdominal wall and pubic area is cleaned and prepared, first with Iodine, then with surgical spirit and the patient is draped.

25° Trendelenberg position of the table is produced at the time of peritoneal opening. (i.e. the head of the table is depressed 25 degrees).

If a uterine elevator is to be used, the Vagina is prepared with savlon at the time of the pelvic examination and the uterine elevator is inserted, after which the patients legs are lowered so that she is flat on the table and the handle of the uterine elevator is loosely taped to the inside of the leg . After draping, the handle can be grasped through the drape and manipulated as necessary.

Local anaesthesia:

1% xylocaine (lignocaine) is used as local anaesthetic agent. After raising "wheals", local is infiltrated around the planned area of incision. A little patience and massage will help the dispersion of local into the tissue. A total 10-15 cc. local anaesthetic is usually adequate.

Supra pubic incision:

In patients with a normal sized uterus, a transverse incision about 1½ inches long is made, an inch above the upper border of the pubic symphysis. If the uterus is enlarged as in postabortal cases and post natal cases the incision is made about an inch (2.5 cm) below the level of the fundus of the uterus. The subcutaneous fat is incised and with blunt gauze dissection the shining rectus sheath can be seen. The sheath is also incised transversely. The cut edges of the rectus sheath are held by artery forceps. The attachment to underlying muscle in the midline is separated up and down for about 1 cm with sharp dissection. The pyramidalis muscles are not disturbed. The rectus muscle is split in the midline and retracted laterally to expose the peritonium. With pointed artery forceps the peritoneum is picked up, ta-king care not be injure bowel or bladder.

With the peritonium elevated, a small nick with the broadest pa part of the scalpel blade is made between the forceps. Since there is a negative pressure inside the abdomen, a small opening into the peritoneal cavity will such air in and thereby lift the peritonium further up from the underlying loops of bowel. The peritoneum is opened longitunidally.

Delivery and ligation of tubes:

The index finger is inserted into the pelvic cavity and the pelvic organs by palpation. If the uterus is retroverted one can easily correct it. Place the finger on the posterior wall of the fundus and move it in either direction to feel the tubes. The tubes are soft, slippery and are quite long. With practice one can easily hook the middle part of the tube and elevate it up nearer the incision. W hen the tube is seen, it is grasped with a Babcock forceps.

Sometimes it may be difficult to deliver the tubes. In that case it may help to apply counter pressure to the surface of the anterior abdominal wall to assist in elevating the tube. Rarely two fingers are needed, one infront and one behind. Slipping the fingers side ways the tubes can be grasped, one at a time, in between the two fingers. If the uterine elevator is used, the uterus is brought up immediately beneath the incision by manipulating the elevator. The uterus can then be tilted left and right to identify the tube. Whichever method is used it is important to be sure that the true Fallopian tube has been grasped and not the round ligament or some other structure. The experienced operator will have no trouble with this, but if there is any doubt it is a simple matter

The modified Pomeroy technique of tubal interruption is preferred. A loop of tube is elevated and a tie of chronic '0' catgut is tied at the base of the loop so as to include 2-3 cm of tube. The loop of tube above the tie is then excised. It is important to use plain catgut and not silk or other absorbable suture material. If absorbable material is used the ends separate after absorption takes place.

Closure of the abdomen:

* Peritoneum is closed with a continuous suture of chromic '0' Catgut.
* Rectus muscles are brought into apposition by interupted '0' plain catgut sutures, tied loosely because muscle is soft and friable.
* Rectus sheath is closed with interupted chromic '0' catgut.
* Skin is closed with 2 silk or Nylon sutures.
* Wound is covered with gauze and leukoplast is applied

Post operative care:

After the opesation the client is brought to the post operative area on a trolley or a stretcher.

Since the operation is done under local anaesthesia, no special care is required other than rest, recording vital signs every hour and inspection of the wound. Patients should be kept under observation of a physician or a trained nurse for at least 4 hours. During this period pulse, temperature, respiration and distension of the abdomen should be checked. The physician should be called in the event of any abnormality.

Food and drink is restricted for 4 to 6 hours because of nausea (due to the pethidine) and drowsyness. Once the nausea and drowsyness are over the client is encouraged to walk. When she is able to void she is permitted to go home. Many of the clients may have to walk a long way home or have to undertake a long treck by bus, for this situation it is better to keep them longer, if possible overnight.

Clients who are city dwellers or close to the clinic can be allowed home within 4-8 hours.

In the majority of cases a full meal can be eaten 6-8 hours after the operation.

Instructions on discharge:

1. Report immdeiately if there is exeeeessive pain, fever, abdominal disturbance, discharge from the wound, or if skin rash or other allergic symptoms develop.
2. Take the medicines as directed by the Doctor.
3. Return to the clinic for removal of the stitches and post operative check up between 7-10 days
4. Rest at home the first day.
5. Normalight work can be resumed the following day, but patients should bet lift heaavy object for 3 weeks.
6. Sexual relation is not prohibited.

Follow-up:

The tubectomy case should be checked and followed-up during the first 3 days and then on the 7/8th and 9th day. The stich should be removed after the 7th or when the wound is healed. The stich may be removed by the FWV or by a trained FWA under aseptic conditions Antibiotic ointment may be used affer the removal of the stitch.

In the event of any ~~[illegible]~~ delayed healing or any other complication the operated case should be referred to the nearest hospital Actual transportation cost will be met from PL accounts by the Thana office concerned.

All tubectomised cases will be followed-up and checked after 3 weeks, one month and 3 months and then at 3 monthly interval for two years. Complaints such as pain, weakness, etc. should be attended to and in some cases, treatment may be required with Vitamins, Iron tablets etc In rare cases p regnancy may occur. In complications and pregnancy, assistance from FWV and Thana level officers should be sought immediately. All costs of such cases will be born by the Govt. and paid by the Thana office from P.L. account.

During the post operative visits, the FWVs/FWAs should devote some time to the immunization, health and nutrition of the children and the family of the acceptors.

All pa tients must be followed-up and complications of any sort must be treated promptly and vigorously. FWAs and other PC & FP staff are responsible not only to follow-up the cases, but also to ensure that complications are treated. Any problems obstructing prompt treatment should be reported immediately to the TFPO who will take immediate action to correct the situation.

Long term advice:

In 95 percent of acceptors' Post- Op' is uneventful. In less than 5 percent of cases, minor ailments such as wound swelling, discharge or stitch abecess may need additional care. Serious wound infection requiring surgical dirainage is rare, but can occur and nothing is gained by delaying proper surgical treatment.

When the wound is healed, the client is allowed to return to her normal routine.

All patients are instructed to have a six and twelve months check-up.

Appendix I

STERILIZATION DIRECTIVES AND STANDARDS OF BANGLADESH GOVERNMENT

Government of the People's Republic of Bangladesh
Population Control & FP Division
" Population Building "
Asimpur, Dacca- 5.

Memo No. PC&FP/2-2/S&T/80/ Dated the _____, 1980.

To
The Deputy Director,
Population Control & FP Office,

_____.

In recent time a significantly higher number of deaths have occurred among Tubectomy cases, a large majority of whom have been due to respiratory arrest presumably caused by intravenous use of pethidine. It is therefore strictly instructed that Pethidine must not be given intravenously. Pethidine must be given 20 minutes before operation.

In this respect the recommended procedure is as given below:-

1. Inj. Atropine 1/100 to 1/200 grain and Inj. Phenergan 25 to 50 mg., 40 minutes before operation.
2. Inj. Pethidine 100 mg. Intra-masculerly, 20 minutes before operation.
3. Inj. Seduxen (Diazepam or Valium) 10 mg. I/V, on the operating table.
4. All these pre-medication should not be allowed to be given by any untrained staff.

N.B. Medical Officer, will be personally responsible for proper selection of cases after through examination and clinical dates must be recorded properly before pre-medication given.

(Col. L.A. Khan)
Director General (Imp.)
Population Control & FP Division.

Memo No. PC&FP/S&T/2-2/80 Dated:

Copy forwarded for information to:-

1. The Director (Imp) of this division
2. The Director (Admn.) of this division
3. P.S. to the Secretary, PC & FP Division.
4. P.A. to the Director General (Imp) PC & FP Division

(Rafiqul Islam)
Asstt. Director (MCH)
Population Control & FP Division

Government of the People's Republic of Bangladesh
Population Control & FP Division
" Population Building "
Azimpur, Dacca- 5.

Memo No. PC&FP/S&T/80/ Dated the _____, 1980.

To
The Deputy Director,
Population Control & Family Planning

Subject:- STANDARD FOR STERILIZATION

In recent time the incidence of complications of sterilization have harply risen. In order to identify related problems, this Division has assesed the situation and found the following major reasons as contributing towards high rate of complications:-

1. Large number of cases performed in a day by one surgeon.
2. Poor case selection leading to operation on clients who are severely anaemic, seriously mal-nourished, asthematic or grossly diabetic.
3. Improper route of administration and large dose of sedatives as pre-medication.
4. Inadequate management of complications and emergencies, particularly in case of respiratory arrest.

Following instructions are therefore laid down as addition to our existing guide-lines:

1. The currently existing limit of 12 cases of sterilization per centre per surgeon must be more rigidly enforced. Programming in the district level should be scheduled in a way that cases can be more widely distributed between all existing equipped centres and all trained doctors available in the district.

   Attempt should be made to utilize all manpower resources and service facilities in the district. Depending on the availability of newly trained [illegible], more centres should be opened.

   (N.B.: Please send us a list of currently used sterilization centres in your district).

2. No intra-venous pre-medication should be given except for treatment of emergencies. (Please see instruction vide Memo No. 6-3/ISP/79/9510(73) dated 29.11.79).

3. The operating surgeon must take responsibility for everything that happen to the patient before, during and after operation.

i) thus the surgeon must examine and select the client himself/herself and certify to that effect;

ii) check the haemoglobin level and record it on the form;

iii) prescribe the dose of pre-medications according to the height and weight of the patient;

iv) ensure monitoring of respiration and pulse every 10 minutes after the pre-medication;

v) certify fitness before the patient is discharged;

vi) ensure the patient is not diabetic

4. The District Technical Committee must certify each surgeon who is allowed to do sterilization. The Committee must be satisfied that the surgeon has performed 10 tubectomy and 2 vasectomy under supervision of a trainer.

5. All certified surgeons must be trained in mouth-to-mouth resuscitation.

6. All surgeons must be familiar with official orders and instructions and all newly trained surgeons must be supplied with copies of existing guide-lines. The Deputy Directors of the districts must ensure that all new TMOs receive copies of all guide-line.

(Atiqur Rahman Khan)
Director (Services & Trg.)
Population Control & FP Division.

...onto... 3.

Memo No. PC&FP/6-3/ISP/79/9510(73)/ Dated _____, 1980.

Copy forwarded for information and necessary action to:-

1. P.S. to the Hon'ble Minister, In-charge, Health & Family Planning.
2. P.S. to the Hon'ble Deputy Minister of Health & FP
3. P.S. to the Secretary, Population Control & FP Division
4. Joint Secretary, Population Control & FP Division
5. Director General, Programme Development/Implementation/NIPORT
6. All Director of this Division _____
7. Director,(Implementation)/Dacca/Rajshahi/Chittagong/Khulna Divn.
8. Director of Health Services, P/C
9. Deputy Director (Finance) of this Division
10. Deputy Commissioner, All district _____
11. Civil Surgeon, All district _____
12. Asstt. Director (MCH-FP)/Asstt. Director (General) _____.
13. President, BAVS, 13/2, Dhanmondi R/A, Dacca- 2.
14. Manager, FP Clinic, Ganesh Para, Syedpur/Rangpur.
15. Office file.
16. Project Director, Mohammedpur Model Clinic.
17. FP Model Clinic, Dacca/Rajshahi/Chittagong
18. All Voluntary Agencies _____

(Nargis Akhter)
Dy. Director (MCH-FP/S&T)
Population Control & FP Division.

21/4/80.

Appendix J

BIOLOGICAL VARIATIONS IN RESPONSE TO A STANDARD DOSE OF A SEDATIVE DRUG

APPENDIX J

BIOLOGICAL VARIATIONS IN RESPONSE TO A STANDARD DOSE OF A SEDATIVE DRUG