

ANALYSIS OF 11,692 LAPAROSCOPIC STERILIZATION IN HIMACHAL PRADESH

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SUMMARY

11,692 laparoscopic sterilizations done in camps have been analysed. The surgical difficulty rate was 7.07%, surgical complications occurred in 9.8% cases and .38% had technical failures. Though the follow-up was not complete, only 2.78% had late complications. There were .1% cases of method failure and the mortality rate was only 26 per 100,000 cases.

Introduction

Laparoscopic sterilization has emerged to be the most popular method of voluntary female sterilization amongst the rural women of India. The tremendous popularity of the rural camps is because laparoscopy has changed the sterilization procedure from a major operation to a safe and effective out patient procedure.

Material and Methods

Eleven thousand, six hundred and ninety-two cases of laparoscopic sterilization with silastic rings were performed in various camps held in Himachal Pradesh from February, 1982 to March, 1983. An analysis of these cases with emphasis on the surgical difficulties, complications and technical failure is presented. The follow-up of the cases was from 4 months to more than one year.

The sterilization procedure was performed by standard method. Concurrent MTP was done for pregnant cases and curettage was done in patients who were in the luteal phase of menstrual cycle and for those with previous menstrual disorders. Intravenous sedation analgesia comprising of promethazine 50 mgm + .6 mgm of atropine and either 100 mgm pathedine or 30 mgm pentazocine was given to the cases together with local infiltration of 1% 7-10 cc of xylocaine. A sample cervical cytology study with Pap smear was conducted during the camps. This helped in identifying abnormal smears and for long term follow-up.

Observations

Ages of the women varied from 18 years to 43 years, 53.12% of the women were in the age group of 21-29 years with the mean age as 28.5 years. Number of living children varied from 1 to 9 with the mean parity being 4.1. 94.5% of the

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women sterilized were from a rural background and 84.5% were illiterate.

Majority of the cases came under class III and IV of the socio-economic status. Only 90 (.77%) cases were having obesity. Among the 11,692 cases 10,070 (86.13%) were in the interval group and of these 1559 (13%) were in luteal phase so curettage was done as a prophylactic measure. Eight hundred, fifty-four (7.3%) patients were in the post partum group and in 747 (6.39%) of the cases who were pregnant at the time of procedure MTP was done. Twenty-one (.18%) cases requested laparoscopic sterilization and continuation of their pregnancies. Such patients were explained about the possibility of mini-laparotomy if the procedure of laparoscopic sterilization failed.

Anaesthesia

Laparoscopic sterilization was done under local anaesthesia in 11,606 (99.25%) cases. Eighty-six (.74%) cases required general anaesthesia for laparoscopic sterilization. In 26 cases sedation, analgesia could not be achieved properly, 21 cases required G.A. as surgical difficulties were encountered, 31 cases had to undergo minilap/laprotomy, 5 were sensitive to xylocaine and in 3 cases electro-coagulation of tubes had to be done.

Surgical Difficulties

Surgical difficulties are those that impeded the operative procedure but may or may not have resulted in changing intended technique or abandoning the procedure. In eight hundred twenty-seven cases (7.07%) surgical difficulties were encountered. In twenty cases (.17%) inadequate anaesthesia posed difficulty in carrying out the procedure and G.A. had to be given. There was difficulty in

creating pneumoperitoneum in 25 (.21%) cases because of obesity and/or wrong introduction of pneumoperitoneum needle in the extraperitoneal space thereby pushing the peritoneum away from the abdominal wall. In 21 out of above 25 cases pneumoperitoneum had to be created by transuterine puncture with Verre's needle. In the remaining 4 cases transabdominal pneumoperitoneum was created by reinsertion of needle in backward direction. Insertion of trocar and cannula was unsuccessful at first attempt in 86 (.73%) cases. Obesity account for 28 cases of unsuccessful puncture, gas in parities for 30 cases and technical fault for the remaining 28 cases. There were 83 (.71%) cases of obesity in 11,692 cases but only 28 cases posed difficulty in creating pneumoperitoneum and trocar puncture. The short length of laparocator failed to reach the tube in 4 cases and hence laparoscope which is longer than the laparocator was inserted and the procedure completed.

Extraperitoneal gas was responsible for surgical difficulty in 58 (.5%) cases. In addition to causing difficulty in insertion of trocar and cannula, gas in extraperitoneal space pushed the peritoneum inwards thereby obscuring the pelvic view. Interference in carrying out the procedure by full bladder accounted for 102 (.87%) cases, catheterization solved the problem. Large gut adhesions to the uterus or tubes caused difficulty in applying ring in 19 (.16%) cases. In 81 (.70%) cases adhesions between omentum and uterus tubes resulted in surgical difficulty. Adhesions were present in 26 cases who had previous pelvic or abdominal surgery and rest had PID. By pushing omentum to one side the tubal rings could be applied. At times small

hole made in the omentum resulted in easy visualisation of the tube. Big uterus as after MTP and in puerperal cases was responsible in 60 (.51%) cases for causing difficulty in identifying the tubes and hence application of rings. As already mentioned by increasing the trendelenburg tilt and manipulating the uterus or giving a lateral position facilitated identification and application of tubal rings. Two hundred eighty-three (2.42%) cases had a tubal pathology thereby causing difficulty in applying rings.

There were 473 cases of PID but only 283 (2.42%) cases caused difficulties, tubal rings were applied on thick tubes by a process of slow milking.

Twenty-one (.18%) cases had unilateral ovarian cysts and in these the tubes were placed in front of the cysts causing difficulty in viewing and applying rings on the tubes. Equipment problems like fogging of lens, inability to form a loop by prongs were responsible for 44 (.37%) cases of surgical difficulties.

Surgical Complications

Surgical complications are defined as morbid processes or events that occurred during the operation but may or may not have resulted in changing the technique or abandoning the procedures.

Uterine perforations accounted for 274 (2.34%) cases of surgical complications. Majority (216) cases of the perforations occurred in lactating mothers because of the soft hyperinvolved uterus and by trainees, 50 cases had perforation in the interval phase whereas only 6 perforations occurred during MTP's. Except for 6 cases where laparotomy had to be done in all cases the bleeding was minimal, however, they were observed for 24 hours. Emphysema of the abdominal wall was a minor complication in 130

(1.11%) cases. Bleeding from the abdominal wound occurred in 20 (.17%) cases, it was controlled by applying an extra catgut stitch. Of the 4 (.03%) cases of bowel injury only 1 had to undergo laparotomy, rest were superficial lacerations. Prong injury to mesosalpinx occurred in 40 (.34%) cases, only in 2 cases laparotomy was required to control bleeding. In rest of the cases bleeding was checked while applying the tubal rings by including a part of mesosalpinx into the loop. Accidental injury to the round ligament occurred in 31 (.26%) cases and injury to the ovarian ligament with the prongs occurred in 4 (.03%) cases.

Partial tubal transection occurred in 39 (.33%) cases, bleeding was controlled by including the injured tube in the loop. Complete tubal transection resulted in 180 (1.54%) cases. Thick and oedematous tubes was the cause of transection in 161 cases, while in rest of the cases excessive pull on the normal tube or holding the tube near the cornual end caused transection. A ring on each end controlled bleeding. In only 3 cases laparotomy was done while in 1 case where the tube was thick, electrocoagulation was done.

Omentum prolapsed into the wound in 133 (1.13%) cases and was promptly replaced. Small intestine prolapsed into the wound in 4 (.03%) cases and was reposed back. Application of rings on mesosalpinx occurred in 40 (.34%) cases on round ligament in 31 (1.2%) cases, ovarian ligament in 5 (.04%) cases, on omentum in 5 (0.4%) and on small intestine in 2 (.02%) cases. In 183 (1.56%) instances the ring was dropped in the peritoneal cavity. Volsellum injury to the cervix occurred in 15 (.13%) cases, 4 (0.03%) cases had convulsions after local anaesthesia and had to be controlled

by 20 mgm diazepam, intravenously, one patient had cardiac arrest following injection of xylocaine into the subumbilical fold.

Technical Failure

Technical failure occurred when the planned technique could not be carried out and the surgeon had to change to another surgical technique or abandon the procedure. Thirty-one (.26%) underwent minilap or laprotomies to either complete the procedure or treat the complications. In 3 cases electrocoagulation of the tubes had to be done, only 11 (.09%) cases had to be abandoned. A case of ectopic pregnancy was diagnosed during the procedure and she was operated upon. Two patients had reaction to local xylocaine, in 1 the procedure was abandoned and the other died because of cardiac arrest.

In 4 cases trocar puncture failed at the first attempt and with subsequent puncture there occurred leakage of gas making the pneumoperitoneum ineffective. Minilap had to be performed in 3 cases, while in 1 case the procedure had to be abandoned as the peritoneum could not be opened. Six cases had perforation of uterus with excessive bleeding requiring laparotomies.

Tubal transection with haemorrhage in 4 cases was treated with laparotomy in 3 cases and electrocoagulation of the transected ends in 1 case. Omental adhesions to the uterus and tubes, preventing approach to the tubes was responsible for 6 cases of technical failure. In 4 cases laparotomy was done and 2 cases were abandoned. Of the 11 cases of T.O. Masses 7 underwent laparotomy and sterilization and 4 cases were abandoned. Bowel injury occurred in 1 case

though the rings were applied satisfactorily. This was treated with laparotomy and lamberting of the lacerated bowel wall. In 4 cases rings could not be applied because of big uterus and hence mini-laparotomy was done to complete the procedure. Electrocoagulation had to be done in 2 cases with thick tubes.

Associated Disease

In 562 (4.8%) cases associated disease was diagnosed while doing laparoscopic sterilization. Of interest are the 24 (.2%) congenital anomalies, unilateral absence of tube and ovary was found in 5 cases whereas unilateral absence of tube alone was noticed in 9 cases. In 3 cases ovary was absent on 1 side. There was 1 case of uterus didelphys, one of uterus bicornis bicollis and 5 cases of uterus bicornis unicollis. In 1 case of uterus bicornis unicollis one horn of uterus was pregnant. In four hundred seventy-three (4.04%) cases chronic PID was recorded, in 4 cases the pelvis was studded with tubercles. One case of ectopic pregnancy was diagnosed and treated.

Follow-up

Follow-up of the cases though not complete varied from 4 months to more than one year. Follow-up information was gathered by

(a) Sending follow-up cards to doctors incharge of the camps.

(b) Recording follow-up while holding subsequent camps at the same place or nearby.

(c) Direct follow-up with patients reporting to the institutions directly or being referred from the PHC.

One hundred forty (1.19%) cases had minor infection of the abdominal wound,

there were 3 cases of scar hypertrophy and were treated with surgical excision. Seventy (.6%) had post-operative pyrexia and twenty-five (.21%) cases developed pelvic inflammatory disease. Five (.04%) were admitted for pelvic peritonitis and were treated, 1 developed generalised peritonitis and died after one month and another patient died after 20 days because of tubercular meningitis. In fifty-two (.44%) cases incomplete abortions were reported and curettage was done. Thirty-one (.25%) cases reported of heavy menstrual flow after laparoscopic sterilization.

Method Failure

Method failure are procedures conducted as planned but resulting in pregnancy. Fifty-four (.46%) cases of pregnancies were reported till date. On checking their menstrual histories recorded during operation, it was found that 28 (.24%) cases had luteal phase pregnancy, 14 (.12%) cases had continuation of pregnancy present at the time of sterilization and in only 12 (.10%) true failures were detected.

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