LAPAROSCOPIC CAMP STERILISATION IN THE HIMALAYAN AND SUB-HIMALAYAN REGION—A CRITICAL EVALUATION OF 7,730 CASES

By

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SUMMARY

A critical evaluation of Laparoscopic Camp sterilization, performed in the Himalayan and Sub-Himalayan region has been presented. Demographic variables of the Districts of Darjeeling and Jalpaiguri, Coochbehar are analysed. Difficulties were faced in proper selection of cases, maintenance of asepsis and patients's co-operation following analgesia. Surgical difficulties were met in 13.8% cases. Major complications requiring admission were 4. Minor complications in 7.15% cases required observation for 4-6 hours and 1.8% had technical failure. Co-incidental diagnosis of diseases was an additional gain for 16.9% cases. Regular follow-up has helped to diagnose ectopic pregnancy in one case and intra uterine pregnancy (rings applied to mesosolpinx) in two cases. Method failure has not yet been detected. No mortality is reported till date. Lastly suggesions are made to make this method a persistently popular one.

Introduction

Voluntary Camp sterilization has been the most widely used method of population control in rural India. This is a simple, safe, and effective method provided at the door step. The reduced convalscence period has great impact on the daily earning life pattern of the tea garden working as well as labouring class of female folk residing in the Himalayan and Sub-Himalayan areas.

As Laparoscopic camp sterilization is most suited for the rural population in India; it should be viewed with great concern as regard its pitfalls and dangers, lest it looses its popularity. This paper reports the experience of the authors.

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Material and Methods

Surgical team from N. B. Medical College and Hospital, Sushrutanagar, Darjeeling, performed Laparoscopic sterilization—in the Himalayan and Sub-Himalayan region over the Districts of Darjeeling and Jalpaiguri, Coochbehar in West Bengal.

The study period extends from June, 1985 to July, 1986. A total number of 7,730 women accepted sterilization as a

method of choice. Operations were performed in the tea garden hospital, P.H.C.s, and SHCs, rural Hospitals and in open spaces properly arranged.

Patients from adjoining tea garden and distant places were provided with transport facilities. In majority of the cases preliminary screening including physical and pelvic examination, drug sensitivity test could not be performed.

All the cases were operated under Xylocaine local anaesthesia, pre-medication used was, Inj. Pethidine, Phenargan and Atropine about 45 to 30 minutes before operation in about 40% of cases. For the rest 60% cases drugs used were Inj. Calmpose, Fortwin or various combinations depending on availability. General anaesthesia was administered in none of the cases. Single puncture in the infra-umbilical region was the site for approach. Direct introduction of trocar and cannula in few cases on experimental basis, was done by the senior surgeon.

Observation

Most of the cases were interval 95%, Post-partum 3.5% and 1.5% done in early pregnancy, who were terminated in the same centre. 0.8% had previous abdominal surgery commonly caesarean section and appendectomy.

Table I shows the age group of women undergoing sterilization which was 15 to 44 years. 73.25% were in the age of 25 to 34 years. Table II shows that vast majority of the cases i.e. 81.29% were Hindus, 10.54% were Buddhists.

TABLE I
Age-wise Distribution

Sr. No.	Age in Years	No. of cases	Percentage
1.	15-29	22	0.28
2.	20-24	1226	15.86
3.	25-29	4036	52.23
4.	30-34	1627	21.04
5.	35-39	579	7.49
6.	40	240	3.10
	Total	7730	100.00

TABLE II
Religion

Sl. No.	Religion	No. of cases	Percentage
1.	Hindu	6284	81.29
2.	Buddhist	815	10.56
3.	Mohamedan	376	4.86
4.	Christian	123	1.59
5.	Sikh	0	—
6.	Others	132	1.70
	Total	7730	100.00

In the Darjeeling district 68.26% were tea garden workers, and 5% Government employees as seen in Table III. In the Sub-Himalayan region 17.85% were tea garden workers and the rest were housewives. Number of living children varied from 2 to 5 and more. 81.66% have 3 and more children as seen in Table IV. 63.64% have last child's age 2 years and more as seen in Table V. 69.04% have two or more male children as reviewed in Table VI. Majority of the cases 88% came from rural areas. The literacy rate differs widely

TABLE III
Occupation
A. Darjeeling District (Himalayan)

Sl. No.	Occupation	No. of cases	Percentage
1.	Tea-Garden Worker	1336	68.26
2.	Housewife	523	26.74
3.	Govt. Employee	98	5.00
	Total	1957	100.00

over the two region. 32.38% of the Himalayan region and 13.68% in the Sub-Himalayan region were literate.

B. *Jalpaiguri & Coochbehar District (Sub-Himalayan)*

Sl. No.	Occupation	Sl. No. cases	Percentage
1.	House wife	4742	82.15
2.	Tea-Garden Worker	1031	17.85
	Total	5773	100.00

TABLE IV
No. of Living Children

Sl. No.	Children	No. of cases	Percentage
1.	2	1416	18.32
2.	3	3816	49.36
3.	4	1438	18.59
4.	5+	1060	13.73
	Total	7730	100.00

TABLE V
Last Child's Age

Sl. No.	Year	No. of cases	Percentage
1.	1	2810	36.36
2.	2	3996	51.69
3.	3+	924	11.95
	Total	7730	100.00

TABLE VI
No. of Male Children

Sl. No.	Male	No. of cases	Percentage
1.	'Nil'	138	1.78
2.	1	2255	29.16
3.	2+	5337	69.06
	Total	7730	100.00

Surgical Difficulties

Difficulties were encountered during the procedure in 13.8% of cases. Patient's Co-operation could not be obtained following analgesia and local anaesthesia in 3% of cases. Repeat doses were required in them. Patients having obesity and previous abdominal surgery (1.3%), required 2 or 3 attempts, for successful pneumoperitoneum and introduction of trocar and cannula.

Vision was obscured by full bladder, repeated fogging of the lense and extra-peritoneal gas pushing the peritoneum down (6%). Difficulty to identify and to approach the tube was found in 2.3%, cases. Inability to form a adequate loop or instrumental problem of dropping the ring over the tongs in 1.2% of cases were found.

Complications

Complications both major and minor requiring attention and/or admission were few. Drug hypersensitivity following premedication, surgical emphysema during pneumoperitoneum, cardiac arrest following pneumoperitoneum and perforation of large bowel during introduction of trocar and cannula were found, one patient in each category. All those patients were admitted in the nearest district hospitals or Medical College Hospital where they were managed effective and discharged well.

Minor complications were met in 7.15% cases—2.8% had uterine perforation with uterine manupulator and majority of them were lactating mothers. 1.5% had tubal transection with thick, oedematous and friable tubes. Subcutaneous emphysema 1.2%, injury to vessels in the mesosalpinx 0.87% bleeding from

abdominal wound 0.28%, bleeding from the cervix due to trauma of tenaculum and manupulator—0.5% were met with. All cases were kept under observation for 4 to 6 hours. None required admission.

Co-incidental Diagnosis

Co-incidental diagnosis of diseases were made in 16.9% of cases. Of significance was detection of mullerian abnormalities in 9 cases (0.1%) Bicornuate uterus in 5, unicornuate uterus in 3, unilateral absence of tube in 1, were found. Pelvic tuberculosis in 0.4%, Chronic P.I.D. 6.20%, fibroid uterus 5%, ovarian cysts 3.8%, and cervical lesion in 1.6% cases were met with.

Technical failure

Due to adhesions, hydrosalpinx, tubo-ovarian masses were found in 1.8% of the cases.

Follow-up

Follow-up is being continued till date. This team had been advantage of holding camps to some centre on rotational basis. Local organisation keep the patients informed to get check-up in the subsequent date by the same team. Ours is a rural based Medical College in the country. Cases are also referred directly to the medical college, where they are thoroughly checked and treated.

One case of ectopic pregnancy and two cases of intrauterine pregnancy have been reported. The case of ectopic pregnancy was diagnosed early and life was saved. The two cases of intrauterine pregnancy underwent laparotomy in the medical college, one during puerperal ligation and the other during hysterotomy and ligation. In both the cases rings were found to be wrongly applied over mesosalpinx on one side.

Discussion

Simplicity, safety, and efficacy has made Laparoscopic sterilization a popular method. Very minimal morbidity and mortality has also favoured it. Average age of women opting for sterilization is in her 30s. Women in this study conform to this world wide trend. Increased demand for male children, have been shown by many researchers in this field. The present study supports this view. The authors report the difficulties faced during camp procedure. Pre-operative screening is of paramount importance. It helps to detect the high risk cases. Many unnecessary sterilizations could be avoided. Detection of co-incidental pathology helps the women for proper treatment of diseases. History of drug sensivity, preliminary physical, pelvic examination and papsmear seems to be of immense value. Sterilization of instruments in between cases is needed to prevent cross infection and thereby to cut down post-operative morbidity. Proper timing and dose schedule of analgesics is needed to get proper patient co-operation.

Obesity and previous abdominal surgery are not absolute contraindications for Laparoscopy. However they need extra caution.

Gradual pneumoperitoneum, unhurried technique can avoid complication like surgical emphysema, gut injury and cardiac arrest. Uterine perforation can be minimised by the assistant with gentle manupulation under guidance of the scopist.

Method Failure

It is not reported till date in the present study. The authors regret comment due to lack of proper screening of menstrual history, luteal phase pregnancy, early pregnancy and lactational amenorrhoea. In the present study 86.30% of the Sub-Himalayan and 67.62% of the Himalayan region are found illiterate. This reflects the cross sectional view of country's population. The increasing need for education and health consciousness in the rural mothers is urgently felt. Organisation of antenatal, well-baby, immunisation clinics in rural areas need no more emphasis.

The authors conclude that Laparoscopic camp sterilization can safely be performed in rural areas, with increasing popularity only with fulfilling the above mentioned criterias.

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