

Original Article

CAMP STERILIZATION VS HOSPITAL STERILIZATION –A LONG TERM FOLLOWS UP

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ABSTRACT

Introduction: As a part of national family planning programme hospital and camp sterilization has been popularized in last few years.

Methodology: A study was undertaken at GICE Hospital, Kalyani since December, 2009 to March, 2018 on 500 sterilization cases who presented with various gynecological problems, at the clinic. The demographic profile, clinical presentations and operative findings were noted and a comparative study was done between the outcomes of camp and hospital cases.

Results: Three hundred sterilization cases were performed at hospital and 200 were in camp. Mini laparotomy was done in 59.4%, (160/300) cases in hospital and 70% (140/200) cases of laparoscopic sterilization were performed in camp sterilization cases. All 200 camp sterilization cases (100%) were performed during interval period, whereas in hospital sterilization cases were mostly puerperal 180/300 (60%). Complications following camp sterilization were found to be higher than that of hospital sterilization cases. Laparotomy revealed that tubo-ovarian mass was found in 33.3% (10/30) of camp sterilization (3 cases diagnosed pre-operatively) as compared to 11.4% (8/70) hospital sterilization cases.

Conclusion: Proper selection of cases and appropriate technique will improve the outcome of sterilization.

Key words: interval, laparoscopic sterilization, mini laparotomy, puerperal

INTRODUCTION

Voluntary sterilization is now increasingly performed at various hospitals and camp as a national family planning programmes. As the number of women who were sterilized continues to increase, complication arising from these operations was also increasing in number especially in unselected cases. After reviewing various literatures, it appeared that long term complications following sterilization operation

(both in Camps and hospitals) were rarely reported, Therefore, it was decided to carry out a study to focus the long-term complications following sterilization operations.

MATERIALS AND METHODS

This study was undertaken at GICE Hospital, Kalyani since December, 2009 to March, 2018. During this period 500 sterilization cases, all patients who underwent sterilization procedure

at any time now presented with various gynecological problem, were included in the study.

Complete history regarding age, parity, socio-economic status, menstrual history, obstetric history, place of sterilization, route sterilization, time of sterilization, during of sterilization and lastly any complications were reviewed very thoroughly. Clinical examinations were performed to find out any pelvic tenderness, T.O.mass, or any other pelvic pathology. During laparotomy, which were done for various gynecological conditions, (with the history of sterilization operations) condition of both tubes regarding any adhesion with the surrounding structures, tubo ovarian mass or hydrosalpinx were evaluated. A comparative study was done in between camp and hospital sterilization in a tabulated form.

RESULTS

Total 300 sterilization cases were performed at hospital and 200 were in camp. Out of 300 hospital sterilization cases, Mini laparotomy were done in 59.4%, (160/300) cases, laparoscopic sterilization was in 43.3% (130/300) cases and vaginal sterilization were in 3.3% (10/300) cases, whereas 30% (60/200) cases of minilap and 70% (140/200) cases of laparoscopic sterilization were performed in camp sterilization cases (Table - 1).

TABLE – 1

TYPES OF STERILISATION			
Place	Minilap	Laparoscopic sterilization	Vaginal sterilization
Hospital (n=300)	160 (59.4%)	130 (43.3%)	10 (3.3%)
Camp (n=200)	60 (30%)	140 (70%)	

Regarding parity distribution, it appeared from the Table-2 that, 70 % (210/300) in hospital sterilization and 80% (160/200) in camp sterilization cases were having 4-5 living children.

TABLE – 2

Place of sterilization	Parity wise sterilization			
	2-3	4-5	6-7	8 & above
Hospital (n=300)	75 (25%)	210 (70%)	15 (5%)	Nil
Camp (n=200)	160 (80%)	19 (9.5%)	10 (5%)	1 (0.5%)

TABLE- 3

Time of operation	TIME OF OPERATION	
	Hospital sterilization (n=300)	Camp sterilization (n=200)
Puerperal	180 (60%)	-
Interval	60 (20%)	200 (100%)
During cesarean section	35 (11.7%)	-
During hysterectomy	20 (6.6%)	-
Along with D&E	5 (1.7%)	-

From Table-3, it revealed that all the camp sterilization cases were performed during interval period, whereas in hospital sterilization cases, 60% (180/300) were done during post-partum period, 78.4% (235/300) hospital and 85% (170/200) camp sterilization cases had the history of tubectomy within last 6 years. (Table 4)

TABLE – 4

Place	Duration since sterilization (years)					
	1-2	3-4	5-6	7-8	9-10	11 & above
Hospital (n=300)	70 (23.4%)	75 (25%)	90 (30%)	25 (8.3%)	25 (8.3%)	15 (5%)
Camp (n=200)	60 (30%)	70 (35%)	40 (20%)	20 (10%)	8 (4%)	2 (1%)

Complications following camp sterilization were found to be higher than that of hospital sterilization cases (Table-5). Persistent pain at pelvic region due to low grade infection were found to be 10% (20/300) in camp cases as compared to 4% (12/300) in hospital cases, 9% (18/200) camp cases have been suffering from menorrhagia as compared to 6% (19/300) hospital sterilization cases. Clinically tubo-ovarian mass was found to be ex (16/200) in camp sterilization and 5% (15/300) in hospital

sterilization cases respectively, probably due to improper selection of cases.

TABLE - 5
LATE COMPLICATIONS

Types of complications	Hospital Sterilization	Camp Sterilization
Persistent pain at pelvic region	12(4%)	20 (10%)
Irregular bleeding	10(3.3%)	7(3.5%)
Menorrhagia	18 (6%)	18 (9%)
Keloid	5(1.7%)	4 (2%)
Pregnancy	1(.33%)	11 (.5%)
Tubo-ovarian mass (clinically)	15(5%)	16 (8%)

Irregular bleeding per vagina was found to be almost same in both groups probably due to pre-existing pathology involved.

TABLE- 6
LAPAROTOMY FINDINGS

Findings	Hospital sterilization (n=70)	Camp sterilization (n=30)
Adhesion	4 (5.7%)	5 (16.7%)
Hydrosalpinx	3 (4.2%)	4 (13.3%)
Tubo-ovarian mass	8 (11.4%)	10 (33.3%)

Out of 100 laparotomy cases, (70 from Hospital sterilization and 30 from camp sterilization) which were performed for other gynecological reasons, tubal adhesion to the surrounding structures were found in 5.7% (4/10) in the former and 16.7% (5/30) in camp cases respectively. It was interesting to note that T.O. mass was found in 33.3% (10/30) of camp sterilization (3 cases diagnosed pre-operatively) as compared to 11.4% (8/70) hospital sterilization cases (6 cases diagnosed pre-operatively). Hydrosalpinx 13.3 % (4/30) were found to be higher in camp sterilization cases as compared to 4.2% (3/10) in hospital sterilization cases respectively. (Table 6)

DISCUSSION

Voluntary sterilization is increasingly performed at various hospitals and camps as a part of national family planning programme, since the number of sterilization operations are continuing to increase, complications arising from this operation are increasing in number especially in an unselected case. Long term complications following camp and-hospital sterilization cases are very rarely reported.

Out of five hundred cases, 300 had hospital sterilization and 200 had camp sterilization. Mini laparotomy was found to be higher 53.4%, (160/300) in hospital sterilization as compared to camp sterilization 30% (60/200) cases. On the other hand, laparoscopic sterilization was reported to be more 70% (140/100) In camp sterilization compared to hospital cases 43.3% (130/300), only 3.3% (10/300) hospital cases had vaginal approach.

All the camp sterilization cases reported to have operated during interval period, whereas in hospital sterilization cases 70% (210/300) were reported to have operated during puerperal period, 76.4% (235/300) hospital and 85% (170/200) camp cases were reported to have operated 1 years back. 74% (370/500) women were having 4 to 5 children.

Proper selection of cases, the type, procedure and morbidity rate after operations have definite effect on the pelvic pathology Including effect in menstrual cycle, In the present series persistent pelvic pain were found to be more 10% (20/200) in camp cases than that of 4% (12/300) in hospital cases as specially in an unselected case. Most of the women reported to have told this author that they have suffered from this problem even before these operations. In a similar study the risk of menstrual disorder was found to be more in post tubal sterilization cases, however increased associations with laparoscopy was not established.

Neil et. al (1975) reported a significant increase in menstrual loss and dysmenorrhoea in women sterilized by tubal diathermy and division of tubes by Pomeroy's procedure.¹ This is probably due to interruption of the vascular pattern of anastomosis between the uterine and ovarian arteries (Lieberman et, al 1974).² According to

Fortney et. al (1983) women defined as having abnormal pattern of menstrual cycles were three times more likely to experience changes than women with normal cycles.³ In the present series, out of 200 camp cases 9% (18/200) had menorrhagia and 3.5% (7/200) had irregular bleeding whereas out of 300, hospital cases 6% (18/300) had menorrhagia and 3.3% (10/300) had irregular bleedings. It appeared that menorrhagia was found to be common complications in both groups probably due to interruption of vascular pattern of anastomosis between the ovarian and uteri arteries, but in 70% and 40% menorrhagia cases in camp and hospital respectively had the history of excessive flow in menstruation before operation.⁸

To avoid Interruption of vascular pattern of anastomosis, Hawkins and Stall-Worthy (1974), and Kasonde (1976) have suggested that to include a small portion of the medial half of the tube by Oxford technique which does not occlude the artery, therefore no significance difference to menstrual loss, but this technique is not probably possible in camp sterilization except in hospital cases.^{4,5} As regards irregular menstrual cycle - all the patients in both groups were reported to have suffered from these problem before operation, therefore proper screening is essential.

Clinically T.O mass were found to be higher 8% (16/100) in camp cases as compared to 5% (15/300) hospital sterilization cases. On laparotomy (which were advocated for other gynecological reasons) out of 30 camp sterilization case 16.7% (5/30) tubal adhesion from mild to severe degree, 13.3% (4/30) hydrosalpinx and 33, 3% (10/30) T.O. mass was seen as compared to 5.7% (4/70) tubal adhesion, 4.2% (3/70) hydrosalpinx and 1.4% (8/70) mass were detected out of 70 hospital sterilization cases. 3 case (Camp) and 6 cases (hosp) of T.O. mass was diagnosed pre-operatively. There was a reported increase in hydrosalpinx after surgical sterilization.⁵ Case reports of adnexal torsion and fallopian tube torsions have been reported after 10years of sterilization were available after reviewing literature of last few years.^{9,10}

Pregnancy rate were reported one from each group following failure of camp laparoscopic sterilization and other following failure of hospital vaginal ligation. Complications in camp

sterilization were due to improper quality control which can be attributed to infrastructure, burden of cases to be completed in short span of time, sterility rather than improper training.⁷

During hysterectomy in 1st group fallopes ring is not seen on right tube and but on left side it embedded in mesosalpinx, whereas in vaginal sterilization cases both round ligaments were found to be cut and ligated with surrounding adhesions.

Drawback of the study is paucity of data and improper documentation due to which intraoperative findings were the result of the current pathology or as a consequence of sterilization were not clear.

CONCLUSION

It appeared from this study that the success of sterilization operations depends particularly (1) proper selection of cases (2) pre-sterilization screening to find out pre-existing pelvic pathology (3) Any menstrual abnormality is to be treated first (4) proper maintenance of hygiene specially in camp sterilization cases (5) proper applications of sterilization and expertise in technique and (6) and lastly post sterilization follow up. All the above-mentioned suggestions are to be advocated properly to reduce long term complications. It is not the number but the quality and efficacy of operation which is most essential for successful sterilization operations.

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