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Clinical study of female sterilization

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ASTRACT

Objective: to study the changing trends in female sterilization, its importance in population control, to analyse the effect of different parameters on acceptance of sterilization, to study the complications in sterilization procedure. **Study Design:** Prospective observational study at a tertiary care hospital. **Results:** In the present study total number of 1600 sterilization studied for different parameters. In this series, majority of cases were in between the age group of 21 to 30 years (88 %), commonest indication (87.37 %) was socioeconomic, with 73.18 % urban acceptance, parity of 3 was largest group of cases (46.87 %),majority (54.87 %) of cases were sterilized in puerperium, Majority of only sterilization procedures (54.87 %) were done under local anaesthesia procedure, most cases (99.68 %) were done by abdominal route, early postoperative complications were seen in 7.76 %. **Conclusion:** Though female sterilization is a very safe, simple and efficacious procedure. constant effort has to be made for promotion of accepting this procedure which has potential ease and successful reversibility if the couple desires for it.

Keywords: Female sterilisation, tubal ligation, Pomeroy's method

Introduction

Female sterilization is the most common method of fertility control. Population of world is going at the rate of 1.9 percent per year by this rate it will double every 35 years (1).

India is the second largest country in world in population with doubling time in years of 37 which is one of the highest in world (1). To fulfil the social, demographic and economic requirement of this too much population pressure, sterilization is the permanent contraception which is the extensively applied for run-a-way population to control it within the limits of national acceptance. Hence government of India first approved sterilization in 1958 (2).

Out of 202 million married couples who have been sterilized for contraception worldwide, 163 million are women, out of this 161 million are in developing country (3). 93.8% were female sterilization out of total voluntary sterilization in India in 1990-91(4).

Female sterilization is one of the commonly perform operation in gynaecology and is extremely popular contraceptive procedure

It offers Advantages over other contraceptive methods in that it is once only procedure which eliminates the risk of unwanted pregnancy and sequalae of induced abortions, contraceptive drugs and devices completely. It does not entail regular check-up, follow up or need for expensive and continued contraceptive supplies. It once accepted it give women a feeling of security about the risk of unwanted pregnancy, as in cases of missed oral contraceptive pills or displaced IUCD

Aim of this study, is to study the changing trends in female sterilization, its importance in population control and in improving lifestyle. Also, to analyse the effect of different parameters on acceptance of sterilization, to study the complication of sterilization and to study the newer and non-invasive methods of sterilization.

Materials and Methods

This is a prospective observational study conducted at Government Medical College, Aurangabad, for a period of 2 years. Total cases were 1600.

Inclusion and exclusion of cases were done on basis of national guidelines. All sterilization was performed as inpatient procedure after thorough history taking, clinical examination and necessary laboratory work as per national guidelines for female sterilization.

All Procedures where done by residents, teaching staff and senior faculty. All cases of sterilization were done by Pomeroy's method using chromic catgut for tubal ligation. all sterilisation procedures were done under all aseptic precautions and site of incision varies according to uterine size. Most of the cases where done under local anaesthesia plus sedation. General or regional anaesthesia was given to extremely
obese patients, patients with previous laparotomy scars, anxious patients, patients allergic to xylocaine, sterilization with concurrent MTP and non-cooperative patients.

All patients were observed for 7 days. Wound was inspected on 4th day and on 7th day stitches were removed. All patients were advice for follow up after 1 week 1 month and 6 months after sterilization.

Discussion

Acceptance of female sterilisation has markedly increased throughout the world and it is one of the safe and easily available method of contraception.

In the present study total number of 1600 sterilization studied for different parameters.

Table 1: Age Wise Distribution

Age	Number (n = 1600)	%
23 -25 yrs	711	44
26- 30 yrs	707	44
31 -35 yrs	140	9
Age >35 yrs	42	3

In this series, majority of cases were in between the age group of 21 to 30 years (88 %). The incidence of cases in age group 21 to 25 years and 26 to 30 years was 44%, 44 % respectively. Theodora et al (2), Verma et al (5) and Datta et al (6) reported incidence of cases in each group of 26 to 30 years where 37.67 %, 36.33%, 44.24 % respectively in their studies. Minimum age was 20 years and maximum age was 45 years in this study.

Table 2: Religion

Age	Number	%
Hindu	1262	78.87
Muslim	338	21.12
Total	1600	100

The majority of cases (78.87 %) where Hindu where are 21.12 % were Muslim. high Acceptance in Hindu religion is comparable with other studies like Chaubal et al (7) 81.7 % Hindu and 6.7 % muslim, Tanwar et al (8) 93.24 % Hindu and 5.48 % muslim, Dutta et al (6) 85.58 % Hindu and 3.18 % muslim.

Table 3: Indications

Indications	No. of cases	Percentage
Socioeconomic	1398	87.375
Obstetrics	181	11.3125
a) Prev 2 LSCS	103	6.4375
b) Second gravida with CPD	49	3.0625
c) Failure of sterilisation	29	1.8125
Medical	21	1.3125
a) RHD	10	0.625
b) Diabetes	4	0.25
c) Chronic hypertension	3	0.1875
d) Epilepsy	2	0.125
e) IHD	2	0.125
Total	1600	100

In this series commonest indication (87.37 %) was socioeconomic. Mehta and Mehta (9) quoted commonest indication as socioeconomic without giving incidence. Similarly, Ghaatikar & Bhoopatikar (10), Chaubal et al (7) had socio economic indication for sterilisation in 85.19 %, 96.2 % cases respectively in their studies.

Table 4: Residence

Locality	Number	%
Urban	1171	73.18
Rural	429	26.81
Total	1600	100

The Urban acceptance (73.18 %) whereas rural acceptance (26.81 %) was in this study. Baig (11) in previous study at this institution noted incidence of rural acceptance as 40.34 %. The fall in rural acceptance in this series is due to urbanization and increased availability of health services in rural areas, reduced the referral to urban centre.

Table 5: According to parity

Parity	Number	%
1-2	351	21.9375
3	750	46.875
4-5	443	27.6875
6 or more	56	3.5
Total	1600	100

Parity of 3 was the single largest group of cases (46.87 %) in this study. Similar observations were quoted by Verma (5), Dutta (6) and Maitra and Hazra (12) as 42.34 %, 51.6 %, 31 %, in their studies respectively for para 3 patients.

At least one male child was a green signal for the sterilization.

Table 6: Time at sterilisation

Time at sterilisation	No. of cases	Percentage
Puerperal	669	41.8125
Interval	281	17.5625
With Caesarean section	438	27.375
With MTP	187	11.6875
d) With MR	125	7.8125
e) With SE	49	3.0625
f) With other procedure	13	0.8125
With laparotomy	25	1.5625
f) With Ectopic pregnancy	20	1.25
g) Ovarian Cystectomy	5	0.3125
Total	1600	100

In the present study, majority (54.87 %) of cases were sterilized in puerperium, usually on 3rd day after delivery extending maximum up to 5th day due to technical delay. Followed by those sterilized concurrently with caesarean section (27.37 %).

Edwards and Hakanson (13) reported an incidence of Postpartum sterilization in 65.4 % and interval sterilization in 26.5%. Akhtar (14) quoted incidence of sterilisation with concurrent laparotomy, previous laparotomy and simultaneous sterilisation of patient.

Apelo et al (15) used local anaesthesia in 63% places whereas Aubert et al (16) used local anaesthesia in 80% cases in their study with 2,55,812 cases. Gulati and Agarwal (17) gave local anaesthesia to all their cases undergoing sterilization and intravenous sedation only in few cases who needed additional analgesia.

Table 7: Type of anaesthesia

Type of anaesthesia	No. of cases	Percentage
Local anaesthesia	878	54.87
Spinal anaesthesia	506	31.62
General anaesthesia	152	9.50
Local anaesthesia + Spinal anaesthesia	54	3.37
Spinal anaesthesia + General anaesthesia	10	0.62
Total	1600	100

Majority of only sterilization procedures (54.87 %) were done under local anaesthesia procedure, combined procedures needed regional or general anaesthesia accordingly.

Table 8: Route of sterilisation

Route of sterilisation	No. of cases	Percentage
Abdominal	1595	99.68
Vaginal	5	0.31
Total	1600	100

Most cases (99.68 %) were done by abdominal route.

Sterilization by vaginal route was very popular in 1970-80s. It has got its own advantages and disadvantages but, due to

significant infection morbidity it is fallen into dispute, which was shown by many studies on sterilization at various places. According to Akhtar (14) vaginal TL has increased morbidity (8.3 %) than abdominal TL (3.2 %), which included pelvic abscess in 2.35 % cases, severe vaginal bleeding required blood transfusion in 2.35 % cases, higher failure rate (1.17 %). Other morbidities were more common with vaginal TL included infection, menstrual irregularities, dyspareunia and pain.

In this series 5 cases (0.31 %) sterilised by vaginal route, concurrently with Fothergill's repair for vaginal prolapse

Table 9: Early complications

Complication		No. Of cases	Percentage
Wound complications	Wound gape	53	3.31
	Wound infection	32	2
Fever		11	0.68
Bladder injury		02	0.12
Uterine perforation with concurrent MTP needed laparotomy		7	0.43
Tear of mesosalpinx and avulsion of tube		1	0.06
Peripheral thrombophlebitis		1	0.06
Post spinal headache		13	0.81
Urinary tract infection		04	0.25
Total		124	7.75

Early postoperative complications were observed during period from operation to 1 week after discharge. The incidence of complication was 7.758 %.

Morbidity during TL procedure varies accordingly to various factors like method used, type of anaesthesia, concurrent procedures like Caesarean Section, MTP or laparotomy, skill of the operator, available facilities and follow up services.

Mehta and Mehta (9) found total morbidity as 15% and wound infection in 7.5 % cases in their study. According to Ghatikar and Bhoopatkar (10), wound complication was present in 4% of their cases.

Febrile Morbidity in this study was noted in 11 cases (0.68 %), which was 1.8 % in the study by Apelo (15).

Incidence of accidental bladder injury was 0.12 %, which was 0.2 % and 0.13 % in study by Apelo (15) & Sathe (18) respectively.

Table 10: Late complications

Complication	No. Of case	Percentage
Pain in lower abdomen	39	0.039
Weakness	27	0.027
Irregular bleeding	12	0.012
Itching over the scar	27	0.027
Serous discharge	12	0.012
Backache	43	0.043
Failure of sterilization	2	0.002

Most of the cases in this series did not report for follow up. However, the overall incidence of late complications in this series was 1.62 %.

in This Study, there was no date sterilization procedure. This observation is similar to that of Osathanondh (19) & Sathe (18).

In this Study failure of sterilization was noted in two cases (0.12 %). No case with post sterilization ectopic pregnancy was noted. Failure rate according to Edwards and Hakanson (13), Chaubal et al (7) & Apelo et al (15) was 0.17 %, 0.28 % & 0.2 % respectively.

CONCLUSION

1. Female sterilization is of considerable interest in the field of child birth and Child Health Care in India. more and more couples are accepting sterilization at an earlier age and parity.
2. Though female sterilization is a very safe, simple and efficacious procedure. constant effort has to be made for promotion of accepting this procedure which has potential ease and successful reversibility if the couple desires for it.

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