

FAILURE OF FEMALE STERILISATION

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SUMMARY

Forty nine women admitted with pregnancy after failed sterilisations were scrutinized to find out the causes of failure. Only 10 (20.4%) had undergone sterilisation at our institution; rest of the tubectomies were done at Primary Health Centres or District Hospitals outside. 45% of the cases were postpartum sterilisations and 69.3% had minilaparotomy. A very high number had tubal pregnancy (42.8%).

Reanastomosis was the commonest cause after minilaparotomy whereas incorrect technique was the commonest cause after laparoscopic sterilisation. The need for the teaching of correct techniques is stressed.

INTRODUCTION

Voluntary sterilization has become the most important method of controlling family size among the population of both developed and developing countries. Many women select sterilisation because it is safe, effective, economical and one time method that is guaranteed to terminate fertility. Any pregnancy occurring after this procedure, therefore, causes a lot of concern to the couple and also to the gynaecologic surgeon especially when

medico-legal questions arise. As gynaecologists we are aware that there is no perfect method of sterilisation, both in female and male. To say that sterilisation failure is expected doesn't answer why. When failure occurs, the cause should be evaluated. The main objective of this study is to scrutinize the causes of failed sterilisation in female.

MATERIALS AND METHODS

The present study was carried out in the department of Obstetrics & Gynaecology of Jawaharlal Institute of Postgraduate Medical Education and

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Research, Pondicherry - a tertiary level institute in South India. All the women coming with pregnancy after sterilization done in this institution or outside were the subjects of study during a period of six and a half years from January 1988 to June 1994. All the case records were reviewed regarding date and method of sterilisation, timing, place and outcome of pregnancy and findings at the time of repeat sterilisation were recorded in a pre-designed proforma and results analysed.

RESULTS

The total number of sterilisations performed in the department of Obstetrics & Gynaecology of this institute during the period of six and a half years was 4905. 49 cases came with pregnancy after sterilization. These included 28 cases coming back with pregnancy seeking termination and re-sterilization and 21 cases admitted as ectopic pregnancy. Ten out of 49 (20.4%) had sterilization in our institution giving institutional failure rate of 0.23% and thirty nine were sterilized outside; 21 (53.8%) in district hospitals and 18 (46.2%) in the Primary health centres and subcentres.

As far as timing of sterilization was concerned, 21 out of 49 (45%) were

postpartum sterilizations, 13 (26.5%) were concurrent with LSCS and 8 concurrent with MTP (16.5%). Seven cases had interval sterilization (14.2%).

Fifteen women (45%) came back with pregnancy within 5 years after sterilization. The minimum time interval between sterilization and pregnancy was 6 months and maximum was 14 years. There was no luteal phase pregnancy.

As regards the method of sterilization, 34 out of 49 had tubectomy by minilaparotomy (69.31%) and 15 (30.7%) had laparoscopic sterilization. 21 women (42.8%) desired MTP mostly in first trimester, rest of the women had either full term delivery (2), spontaneous abortion (2) or intrauterine death (1). 2 patients were lost to follow up. A very high number viz. 21, of the patients were admitted as emergency with tubal pregnancy (42.8%).

Table-I shows the causes of failure of sterilisation as seen grossly at the time of repeat sterilisation. This includes only cases of intrauterine pregnancies.

The causes of failure after laparoscopic sterilization are depicted in Table-II.

It was found that reanastomosis was the most common cause of failure after minilaparotomy and incorrect technique was

Table I
Causes of failure after Pomeroy's method (Minilap)

| Cause | No. of women | % |
|------------------------|--------------|-------|
| Reanastomosis | 10 | 58.8% |
| Tuboperitoneal fistula | 3 | 17.6% |
| Technical failure | 1 | 5.8% |
| Unknown | 3 | 17.6% |

Table II
Causes of failure after laparoscopic sterilization

| Cause | No. of women | % |
|-------------------|--------------|----|
| Technique failure | 7 | 64 |
| Reanastomosis | 2 | 2 |
| Unknown | 2 | 18 |

the commonest cause after laparoscopic sterilization. One case of technical failure was done at PHC in which one fallopian tube could not be found out due to adhesions. The cases of incorrect technique were missing Falope ring on one or both sides (n=9), 2 rings including only part of antemesenteric border of the fallopian tube (n=1); cause could not be ascertained in 2 cases because of inadequate documentation.

DISCUSSION

Sterilization procedures damage or impede the function of normal tissue. Normal tissue has a remarkable propensity to heal and re-establish continuity which is evident by those cases of reanastomosis or fistula formation (Soderstrom 1985). Other reasons for conception after sterilization are (1) when a woman is already pregnant at the time of operation; (2) surgical errors are made usually by confusing other pelvic structures with fallopian tube; (3) when equipment fails. Pregnancies unrecognised at the time of sterilization (luteal phase pregnancy) account for 8-45% of reported failures (Population reports series 1985). We did not have a single luteal phase pregnancy in the present study mainly because most of our cases were associated with pregnancy or puerperium.

The overall failure rate after female sterilization has been reported by various authors in different countries as 0 to 2.7% (Population reports series). In a follow up study of 10,174 ligations by Cheng et al (1977), there was failure rate of 0.48%, the highest number of failures occurring with laparoscopic sterilizations accounting for 2.0% of all ligations performed. Such a high failure rate could be due to insufficient electrocoagulation

Recently Parikh (1987) and Mukherjee & Gupta (1992) have reported very high failure rates of 1.2% and 2.79% respectively. The latter have reported failure rate as high as 8.08% after laparoscopic sterilizations. On the contrary Mehta (1989) and Gupta & Dube (1993) have reported very low failure rates, 0.1% and 0.17% respectively after laparoscopic sterilizations. Data collected by the international Fertility Research Programme mostly from developing countries show that the failure with laparoscopic sterilization is 0.6% at 12 months which increases to 1% at 24 months. The Pomeroy method of ligation was associated with a pregnancy rate of 0.2% during the same period.

As far as causes of failure are concerned Soderstorm 1985 has stressed the need to evaluate especially the repetitive common

cause because it might signal a surgeon to reassess the old technique or invent the new. In his surgical and pathologic scrutiny of 47 cases of repeat sterilization he has found spontaneous reanastomosis and fistula formation as the most frequent causes (12 out of 47). In the present study, reanastomosis was the commonest cause after Pomeroy's method of tubal ligation (10/17). Tuboperitoneal fistula was the next common cause (17.6%).

On the other hand, following laparoscopic sterilization, incorrect technique was the most common cause in our study. This is because most of the cases were done outside at PHC probably by the inexperienced surgeons; this could definitely be reduced by proper supervision by senior gynaecologists. Stovall et al (1990) have also experienced a very high failure rate of laparoscopic sterilizations (26.3/1000) with ring and 45.5/1000 with springloaded clip. They hold the resident doctors of their department responsible due to lack of understanding of operative technique. For this they have developed a standardised education programme.

CONCLUSION

As specialists in teaching institutions we should lay more emphasis on teaching proper technique of various sterilization methods. Though minilaparotomy has been

adopted as a routine, there should not be any hesitation in extending the incision if there is any difficulty in approach to fallopian tube. More stress should be given on teaching proper technique of laparoscopic sterilization. In addition to teaching the residents in teaching institutions, refresher courses can be arranged for the doctors working in periphery.

Since Parkland's method of sterilization has been associated with low failure and is relatively simple, it can be considered as alternative method instead of Pomeroy's method.

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