

SERVICE AT YOUR DOORSTEP

(A Review of Laparoscopic Sterilisations in Rural Camps)

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SUMMARY

The prime challenge to maternity care lies in the developing countries where over 80% of births and over 90% of maternal and perinatal mortality will occur. To prevent this holocaust of maternal and infant deaths, the resources of successful experiences can be incorporated into a universal system that aids broader efforts to success in Primary Health care for all by the year 2000 AD. This system is Maternity Care Monitoring. The aim of our study was the evaluation of data in relation to four significant correlated viz—parity antenatal care, anaemia and perinatal outcome. The results of this analysis reveal that nulliparous women and these with three or more live births form a distinct high risk pregnancy group which warrants close and careful monitoring especially at the antenatal level.

Introduction

Sterilisation has become the world's most prevalent method of fertility regulation. The camp approach to female sterilisation has gained momentum in recent years, in India. It offers essential, vital and urgently needed health services to the very doorstep of the

common man. These camps are organised on a one time basis with pooled facilities and technical manpower.

Laparoscopic sterilisation being simple and quick is easily accessible to the rural women who depend on it mainly due to the lack of availability of other suitable methods of contraception. This method is most acceptable because there is minimal disruption of the routine household work. Reduced operating time and the procedure being easy to learn and teach are other advantages that

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make laparoscopic sterilisation suitable for rural applications.

Aim Of The Study

To evaluate the safety and feasibility of using laparoscopic tubal ring technique for female sterilisation in rural areas.

Materials and Methods

From 1980 to 1983 trained endoscopists from the Nowrosjee Wadia Maternity Hospital, Bombay, attended rural camps conducted at sixteen Primary Health Centres in the State of Maharashtra like Jalna, Tara, Akola, Baramati, Ulhasnagar, Parbhani, Malvani and Pawai and other parts of India like Muradabad, Miraj, Aurangabad and Bhavnagar. A total of 3562 women accepted sterilisation as a method of choice at these camps. Local anaesthesia coupled with intravenous sedation consisting of pethidine 50-100 mgm, 5 mgm siquil and 0.6 mgm atropine, was used for most of the cases. Equipment was sterilised by emerging in formalin vapours for at least 10 minutes between two consecutive cases. Data on sociodemographic characteristics, reproductive history, sterilisation technique, surgical time and difficulties and complications were reported in a standard manner.

Since follow up of these women was not practically feasible, the District Health Officer at the Primary Health Centres was advised to report cases of pregnancy and other complications occurring after sterilisation.

Results and Analysis

Sociodemographic Characteristics

In this camp series, the mean age of women undergoing sterilisation was 31.3 years. Most (71.1%) of the women were between 25-34 years of age, while 23.2 percent women were above 35 years of age and 5.7 percent women were between 20 to 24

years of age. The mean number of live births for these cases was 3.7; more than a fourth of the women had at least 3 live births and 60.4 percent had 4 or more live births. A desire for male children is strongly apparent. About half the women had at least 3 living male children. 41.1 percent had 3 or more living male children. Only 15 (0.4%) had no living male child. The cast majority (95.7%) of the cases were Hindu, 4.2 percent were Muslim and 0.2 percent Christian. Most (83.0%) of the women underwent sterilisation within one year of their last delivery.

Medical History

Medical disorders were recorded for 9 (0.2%) cases. Three (0.1%) cases had marked obesity and 2 (0.1%) cases each had Koch's, bronchial asthma, and hypertension. Eleven (0.3%) cases presented with a past history of exploratory laparotomy and 29 (0.8%) cases had a previous caesarean section.

Type of Case

In this series, the vast majority (90.2%) of the cases were interval, only 7.8 percent cases were postpartum and 2.0 percent cases were postabortal.

Type of Scope and Technique Used

The Laparocator, GU, and Storz's laparoscope was used for 45.0, 24.7 and 11.1 percent cases respectively. While 8.6, 7.8 and 2.7 percent cases were performed using the Yoon, KLI, and Wolff scopes, respectively. The single puncture technique was adopted for 66.6 percent and the double puncture technique for 38.8 percent cases. The direct trocar cannula method was used in 75 (2.1%) cases. The lateral technique and open laparoscopic was used for 35 (1.0%) and 13 (0.4%) cases, respectively. These variations from the standard method were tried only by the seniormost sur-

geons who were fully skilled in the technique of laparoscopy.

Surgical Time

The mean surgical time was 6.2 and 8.4 minutes for women undergoing sterilisation via the single and double puncture laparoscopic technique, respectively. While the procedure was completed within 5 minutes for 61.0 percent single puncture technique cases, only 24.0 percent double puncture technique cases were completed within this period. In about a third of the single puncture cases and more than half of the double puncture cases, the procedure was completed between 6 to 10 minutes.

Surgical Difficulties

Surgical difficulties were encountered in 249 (4.8%) cases. The most commonly reported difficulty was the ring lost in the peritoneal cavity (1.5%), two rings applied on one tube (0.7%), application of round ligament (0.7%) and ovarian ligament (0.4%) and loops of bowel in the way (0.4%) Table I.

Complications

No death was reported in this study.

The incidence of operative complications

was 5.5 percent. The most frequently reported complications were uterine perforation (2.0%), extravasation of air (1.4%) and transection of tube (s) 1.5% (Table II).

Two failures resulting in intrauterine pregnancy were reported in this study.

Discussion

Whenever high quality voluntary sterilisation services have been made available, there has been great demand for them. As word of such services spreads throughout a community the demand usually exceeds the capacity of the facilities (Green 1978).

Worldwide, the average woman obtaining sterilisation is in her 30's (Green 1978). Women in this study confirm to this worldwide trend. Several researchers have noted in a number of countries, men and women who opt for sterilisation tend to have a larger proportion of sons in their families than in the average family and are likely to have at least one son (Bangladesh Report; Bernard, 1975; Philips *et al*, 1975; Vessey *et al*, 1983). The present study also support this finding.

Mortality and morbidity rates are of considerable concern in rural camp programmes. The incidence of operative complication rate

TABLE I
Surgical Difficulties for 3562 Women Undergoing Sterilisation at CAMPS

Type of Difficulty	Number	Per cent
Dense pelvic adhesions	9	0.2
Omental adhesions	15	0.3
Loops of bowel persistently in the way	20	0.4
Thick oedematous tubes	15	0.3
Application of rings to:		
— Round ligament	35	0.7
— Ovarian ligament	20	0.4
— Mesosalpinx	12	0.2
— Omentum	6	0.1
Two rings applied on one tube	37	0.7
Ring lost in peritoneal cavity	80	1.5
TOTAL	249	4.8

TABLE II
Operative Complications Reported for 3562 Women Undergoing Sterilisation at CAMPS

Operative Complications	Number	Per cent
During anaesthesia sensitivity to local	5	0.1
During manipulation Uterine perforation	106	2.0
During pneumoperitoneum extravasation of air	75	1.4
During sterilisation haemorrhage		
-- Avulsion of tube	7	0.1
-- Transection of tube	73	1.5
-- Transection of round ligament	5	0.1
-- Transection of ovarian ligament	7	0.1
-- Tear in mesosalpinx (exploratory laparotomy 1 case)	6	0.1
Omental herniation	14	0.3
TOTAL	298	5.6

was lower than that reported in Indian series (Bhat *et al* 1980). Vessey *et al* (1983) estimate that of 1000 women undergoing sterilisation, about 4 experience pregnancy after one year, about 8 after 4 years and about 10 after 7 years (Vessey *et al* 1983). In our study both women were known to experience failure within a year, confirming the findings of Vessey *et al* (1983) that the failure rate is higher during the first year after surgery than the subsequent period. It has been suggested by Phillips *et al* (1977) and Vessey *et al* (1983) that a substantial proportion of the failures are ectopic. In this series, as none are known to be reported.

Laparoscopic sterilisation under local anaesthesia in rural camps has made a useful and in our view an acceptable contribution towards making available an effective and safe method of birth control to the rural population.

While improvements in sterilisation technique and equipment continue, available data indicate that the current technique is acceptable to both the medical profession and potential sterilisation adopters. Experts believe that the demand for voluntary sterilisation will continue to grow (Green 1978). The authors conclude that laparoscopic sterilisation can be safely conducted in areas

where hospital infrastructure is inadequate. This method being reversible and with minimal rate of morbidity and mortality can play a vital role in lowering the birth rate and thereby reducing the population growth rate. The authors recommend the single puncture laparoscopic sterilisation method to be made accessible to more women through mobile teams and with more trained personnel at the Primary Health Centres.

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