ORIGINAL ARTICLE

Late Gynaecological Complications Following Pomeroy Method of Mini Laparotomy for Tubal Ligation

Bushra Zulfiqar, Razia Iftikhar

ABSTRACT

Objective — *To analyze the late complications in patients undergoing tubal ligation by Pomeroy method.*

Study design — *Descriptive case series.*

Place & Duration of study — *Family Health Hospital (Family Planning Association of Pakistan) and private clinics at Karachi, from January 2010 to January 2011.*

Methodology — *This study was done on women who underwent tubal ligation by Pomeroy method. Procedure was done under local anaesthesia. Mid portion of each tube was cut and ligated in the form of loop or knuckle. These patients subsequently came for follow-up for up to 2 years. The women with gynaecological complaints were considered for this study.*

Results — *This study was carried out on 300 women. Main complaints at follow up were heaviness in perineal region, chronic pelvic pain, depression (premenstrual syndrome) and intermenstrual bleeding.*

Conclusions — *Complaints of minor nature were reported and easily managed. The procedure of sterilization was a safe and highly effective.*

Key words — *Tubal ligation, Pomeroy Method, Post tubal ligation syndrome.*

INTRODUCTION:

Tubal sterilization is the most commonly used method of family planning. Female sterilization is the best option and it can be performed at any time before or after pregnancy. Tubal occlusion can be performed as an interval procedure separate from pregnancy as well. In this procedure a segment of tube from the mid portion is elevated and an absorbable ligature is placed across the base, forming a loop, or knuckle of tube. It is then excised and tissue is sent for histopathology. Tubal sterilization is the most practical method of contraception performed globally.[1-3]

Correspondence:
Dr. Bushra Zulfiqar
Department of Obstetrics & Gynaecology
Al Tibri Medical College & Hospital
Isra University Campus Karachi
E mail: drzbtehami@yahoo.com

The choice and timing of sterilization are affected by individual patient preference, medical assessment of acute risk, access to services etc. The timing of the procedure influences both the surgical approach and the method of tubal occlusion. In 1990 the corresponding percentage of married women in reproductive age who used sterilization was 22% in developing countries and the corresponding percentage in developed countries was 11%. These women represented 44% and 18% of all contraceptive users in developing and developed countries respectively.[4]

Given technological advances over the past few decades female surgical sterilization has become a safe convenient, easy and highly effective birth control method. Several studies have reported menstrual, somatic, affective, relational or psychological problems following sterilization in women.[5,6] The term post tubal sterilization syndrome

is used that encompass different conditions.[7] The syndrome is caused by blood circulation problems in and around the fallopian tubes and ovaries, pressure on nerves and intrapelvic adhesions. This study was conducted to find out post Pomeroy procedure complications in women undergoing tubal ligation.

METHODOLOGY:

This study was carried out at Family Health hospital (Family Planning Association of Pakistan) and at private clinics in Karachi, from January 2010 to January 2011 on 300 women who underwent tubal ligation (interval and immediate both) by Pomeroy method. This procedure was conducted under local anesthesia using infiltration of xylocaine 2% subdermally at the incision line. The anesthesia worked for around half an hour. In this procedure each tube was cut and ligated in the form of loop or knuckle. The patients were evaluated for any complication during follow-up.

The inclusion criteria were age (from marriage up to 37 year, parity more than 3, normal menstrual cycle, having no previous surgeries and timing of tubal ligation both immediate and interval. Before each procedure of tubal ligation patients were interviewed and a detailed history including age, parity, menstrual history and any surgery in past.

In follow up the women were asked to describe their three most recent menstrual cycles. The women were asked about six features of their menstrual function including duration of bleeding, cycle length, presence or absence of bleeding or spotting between period, cycle irregularity, amount of menstruating blood, inter menstrual bleeding, any psychological issues and chronic pelvic pain / post tubal syndrome. Descriptive statistics were used to present data.

RESULTS:

Of the 300 women undergoing sterilization, 60 came back with complications after one year of tubal ligation. The mean age of the patients' who underwent surgery was 34.9 +1.6 year. The mean parity of the group studied was 4.3 + 0.9. The complication were heaviness in perineal region and pelvic pain in 17 (28.3%) patients. Ten (16.7%) women had depression (premenstrual syndrome); 11 (18.3%) women had chronic pelvic pain; 6 (10.0%) had severe menstrual cramp; 5 (8.3%) faced problem of weight gain; and 11 (18.4%) women faced the problem of inter-menstrual bleeding (table I).

DISCUSSION:

Controversy exists regarding whether female sterilization results in menstrual changes such as dysmenorrhea, menorrhagia, metrorrhagia and post tubal ligation syndrome. The best studies including CREST data suggest that when controlling for confounding variables is done, no significant change in menstrual cycle occurs following tubal sterilization.[8] In present study the result showed the 20% patients faced changes. The study by Fagundas et al showed that no change in the menstrual pattern could be observed six months after tubal sterilization.[9] Similarly in our study the patients having heaviness in perineal region with severe menstrual cramp and inter-menstrual bleeding presented at one year follow-up.

The study done by Ozerken et al showed that some kind of menstrual pattern changes happened in 7.6% of cases after tubal sterilization and these were of mild natural.[10] The study conducted by Ghazala and colleagues revealed that these women were more at risk for gynaecological morbidity as compared to abdominal surgery cases.[11] They stated that menstrual irregularity was two-fold greater in ligated female and the gynaecological disorders showed a positive association with sterilization surgeries. The similar observations were noted in the present study.

A study reported a strong association between ligation and premenopausal symptoms, which in turn are indicative of increase in susceptibility to

Table I: Complications following Pomeroy Method of Tubal Ligation

Complications	Number	Percentage
Heaviness in Perineal region + Pelvic pain	17	28.3
Depression (premenstrual syndrome)	10	16.7
Chronic Pelvic pain	11	18.3
Severe menstrual cramp	06	10.0
Weight gain	05	8.3
Intermenstrual bleeding	11	18.4

diseases of aging including psychological disorders.[12] In our study patients from age of marriage till 37 years were selected. It was found that some patients had problems related to menstrual period similar to that reported by others, who believed that menstrual changes after sterilization depends on age at the time of the procedure. Sterilization at young age leads to more menstrual irregularities than sterilization at older age. The results shown by Hillis et al that menstrual abnormalities are as common among sterilized as in non-sterilized women but still sterilized women are more likely than non-sterilized women to undergo hysterectomy.[13]

According to another study on dysfunctional uterine bleeding (DUB) association with bilateral tubal ligation, women who underwent diagnostic workup for abnormal uterine bleeding between 35 to 46 years of age were more likely to suffer from DUB if they had prior bilateral tubal ligation irrespective of type of sterilization method and period since ligation.[14] In another analysis of the sterilized group compared with a control group, slightly different but but not statistically significant changes were noted in menstrual indices.[15] This results matches with our study.

CONCLUSION:

Patients undergoing sterilization with Pomeroy method developed negligible complications that affects their quality of life and can be managed by simple counseling and medication.

REFERENCES:

1. Jamieson DJ, Kaufman SC, Costello C, Hillis SD, Marchbanks PA, Peterson HB, et al. The US Collaborative Review of Sterilization Working Group. A comparison of women's regret after vasectomy versus tubal sterilization. Obstet Gynecol. 2002;99:1073-2.

2. Adesiyun A. Female sterilization by tubal ligation: a reappraisal of factors influencing decision making in a tropical setting. Arch Gynecol Obstet. 2007;275:241-3.

3. Aisien AO, Oronsaye AU. Two decades of minilaparotomy female sterilization at the University of Benin Teaching Hospital. Niger Postgrad Med J. 2007;14:67-71.

4. Peterson Herbert B, Pollack Army E, Warshaw Jeffrey S. Tubal sterilization. In Te Linde's Operative Gynecology. 9th edition. Edited by John A Rock, Howard W Jones, III. Philadelphia: Lippincott Williams & Wilkins; 2003:537-56.

5. Bartz D, Greenberg JA. Sterilization in United States. Rev Obstet Gynecol. 2008;1:23-32.

6. Peterson HB. Sterilization. Obstet Gynecol. 2008;111:189-203.

7. Padhye S, Karki C. Voluntary surgical complication: a study on level of satisfaction. Nepal Med Coll J. 2003;5:18-21.

8. Stubbiefield Phillips G. Contraception. In Text book of Gynecology, 2nd edition. Coperland LJ (Editor), Philadelphia: W.B. Saunders Company; 2000:287-328.

9. Fagundes ML, Mendes MC, Patta MC, Rodrigues R, Brezowski AT, de Moura MD, et al. Hormonal assessment of women submitted to tubal ligation. Contraception. 2005;71:309-14.

10. Ozerkan K, Aydin G, Koc I, Uncu Y, Uncu G. Menstrual pattern following tubal sterilization. Med Sci Monit. 2010;16:197-201.

11. Ghazala A, Faizullah K, Maqbool A. Association of tubal ligation or abdominal surgery with other gynecological illness. Pak J Med Res. 2005;44:149-52.

12. Whitted R, Verma U, Voigl B, Mendez L. Does cesarean delivery increase the prevalence of adenomyosis? A retrospective review. Obstet Gynaecol. 2000;95:S83.

13. Hillis SD, Marchbanks PA, Tylor LR, Peterson HB. Higher hysterectomy risk for sterilized than non-sterilized women. Obstet Gynecol. 1998;91:241-6.

14. Umber F, Rizvi S, Yusuf AW. Dysfunctional uterine bleeding - association with bilateral tubal ligation? Ann King Edward Med Uni. 2006;12:515-6.

15. Peterson HB, Xia Z, Hughes JM. The risk of ectopic pregnancy after tubal sterilization. N Engl J Med 1997;336:762-767.

Pomeroy tubal ligation is a widely-used method for surgical female sterilization. A laparoscopic technique of Pomeroy tubal ligation using endoloop sutures is compared with the conventional technique of Pomeroy tubal ligation by minilaparotomy. Forty-four women requiring sterilization were randomly selected for either laparoscopy (n=24) or minilaparotomy (n=20).Â A laparoscopic technique of Pomeroy tubal ligation using endoloop sutures is compared with the conventional technique of Pomeroy tubal ligation by minilaparotomy. Forty-four women requiring sterilization were randomly selected for either laparoscopy (n=24) or minilaparotomy (n=20). Laparoscopic Pomeroy tubal ligation as a method to begin educating residents in advanced operative video-laparoscopy appears to have great potential.Â In two women, both with several previous laparotomies, visualization of the pelvic organs was incomplete and the procedure was abandoned at the discretion of the surgeon. One had a minilaparotomy Pomeroy tubal ligation and the other was sterilized by standard two-puncture laparoscopic coagulation. One patient was excluded due to an incomplete data profile. Interventions: Laparoscopic sterilizations using the Pomeroy technique and standard coagulation were performed by gynecology residents with an attending physician present. Pomeroyâ€”a free tie is placed around a loop of tube which is then excised. Usually performed at miniâ€laparotomy, but can be performed laparoscopically. Fimbriectomy. Salpingectomy.Â Complications can occur during sterilisation. The complication rate of interval laparoscopic sterilisation in one large multicentre study was 4.5 per 1000, with vascular or bowel injury, or inability to complete sterilisation laparoscopically, cited as the main reasons for conversion to laparotomy. Immediate complications of laparoscopic tubal ligation include the following: Incorrect anatomical site of sterilization Bowel, bladder, or blood vessel injury or perforation Conversion to laparoto more.Â Conversion to laparotomy occurs upon unexpected injury or technical difficulty. Conversion may be caused by abnormal anatomical findings, such as extensive adhesions, distorted pelvic anatomy, or pelvic masses. A patient's comorbidities, such as obesity or previous abdominal surgery, can increase this risk. The US Collaborative Review of Sterilization found that conversion to laparotomy was the most common complication with laparoscopic tubal ligation. History and methods of tubal sterilization. The pomeroy technique. The parkland procedure.Â Regional, neuroaxial anesthesia can be used for laparotomy as well as colpotomy and is the most common method of anesthesia for postpartum tubal sterilization.8 Hysteroscopic procedures can be performed with minimal anesthesia and/or sedation, conduction anesthesia, or general anesthesia.6. Type of incision: minilaparotomy or colpotomy.Â Immediate surgical complications of elective interval tubal sterilization procedures include hemorrhage, infection, or damage to nearby viscera. Incisional or vaginal bleeding is usually easily controlled with either pressure or additional sutures.