

Assessment of Menstrual Disturbances Resulting From Tubal Sterilization

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ABSTRACT

Objective To find out disturbances in menstruation resulting from tubal sterilization.

Study design Descriptive case series.

Place & Duration of study Department of Obstetrics & Gynaecology, Shaikh Zaid Women Hospital, Chandka Medical College Shaheed Mohtarma Benazir Bhutto Medical University (SMBBU) Larkana, from January of 2017 to December of 2017.

Methodology All women who had history of tubal ligation for more than one year were interviewed and asked about menstruation pattern before and after sterilization. Data was collected in predesigned proforma. Women who had any organic diseases were excluded. Detailed history, general physical along with systemic and local pelvic examination were performed.

Results A total 150 participants were selected for the study. Seventy (47%) patients presented in the outpatient department with menorrhagia, while 42 (28%) reported with metrorrhagia. Eighty (53.3%) patients reported improvement of their symptoms with surgical treatment. Forty-five (30%) women who initially disregarded the symptoms subsequently underwent dilatation and curettage along with conservative medical treatment. Total abdominal hysterectomy was performed in 25 (16.6%) patients.

Conclusions Most of the women reported after tubal ligation with menorrhagia and metrorrhagia. More than 50% women required surgical procedure to address their symptoms, thus proper counseling must be done when tubal ligation is performed.

Key words Tubal ligation, Menstrual disturbances, Menorrhagia, Metrorrhagia.

INTRODUCTION:

Tubal ligation is one of the irreversible surgical methods for contraception in women. It involves ligation of mid-portion of fallopian tube, by forming a loop.^{1,2} All the complications that occur after tubal sterilization are termed as post tubal sterilization syndrome in which bleeding per vagina is observed commonly. The menstrual disturbances often occur

in the form of menorrhagia, metrorrhagia, polymenorrhagia, polymenorrhoea, and dysmenorrhoea and may ultimately require hysterectomy.³

It is claimed that due to the adhesions between pelvic viscera along with the problems in blood circulation and increasing pressure on nerves surrounding the fallopian tubes, the aforementioned syndrome may occur.⁴ Both the surgical approach and the tubal occlusion method can be influenced by the timing of the procedure as well.⁵ Medical causes like fibroid uterus, infections, any malignancy of genital organs and bleeding disorders, can also manifest as the abnormality of menstrual bleeding.^{6,7} However, in the absence of any identifiable pelvic diseases heavy menstrual bleeding can occur which is also termed as abnormal uterine bleeding.⁸

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It was established from the previous studies that after tubal ligation no exact etiology is found for abnormal uterine bleeding. Multiple factors were found to be involved that may give the outcome of the damaging effect of tubal ligation. Moreover, it not only impairs ovarian function by increasing pressure in utero-ovarian arterial circulation and disrupting the blood supply of ovary but also harms the growth of follicles and disturb the ovarian hormonal levels. Furthermore, causing vascular damage to myometrium, medial arteriolar muscle loss along-with the formation of micro aneurysm ultimately resulting in rupture, due to surgical sterilization using diathermy for the procedure. However, for several days no ovarian response may occur along with heightened FSH levels with development of ovarian follicles that leads to hyper response and high E2 concentrations.^{9,10} This study was conducted to find out development of menstrual disturbances following tubal ligation and management offered to these women.

METHODOLOGY:

This descriptive case series was conducted in the Department of Obstetrics and Gynaecology, Shaikh Zaid Women Hospital, CMC / SMBBMU Larkana, from January 2017 to December 2017. Only those women were included who had normal pattern of menstruation before tubal sterilization. Patients who had any pathological problems related to uterus, like fibroid and bleeding disorders along with endometrial polyps, or adenomyosis were excluded. Patients with the history of tubal ligation for more than one year were interviewed who came in OPD. Questions were asked about irregularity in menstruation. Investigations such as blood complete picture, with platelets, prothrombin time and APTT were performed to exclude the bleeding disorders. Other baseline investigations such as urine detailed report, random blood sugar level, blood group and some specific investigation such as thyroid profile, liver function test, blood urea, serum creatinine and ultrasound of pelvis were carried out to exclude any pelvic pathology. All the patients in OPD received medical treatment, for 3 to 6 months. Initially the treatment started with anti-fibrinolytic and non steroidal anti-inflammatory drugs. Patients who did not report any relief from the symptoms then the second line of therapy of cyclical progesterone, and oral contraceptives were started. However, for some patients minor surgical procedure like dilation and curettage was done. In follow-up, women were asked for detail of three most recent menstrual cycle like duration, presence or absence of bleeding, spotting, quantity of blood loss, pain and any psychological problem. Patients who did not respond to medical

therapy and minor surgical procedure, major surgical procedure like total abdominal hysterectomy was done. Data was collected on a predesigned form. All variables were entered and analyzed using descriptive statistics. All the women who were interviewed asked to sign a written informed consent form as well.

RESULTS:

Overall 150 women reported menstrual disturbances following tubal sterilization. There were 22 (15%) women below 25 year of age, while 44 (29%) between 25-29 year (table I). After tubal ligation the pattern of menstruation reported was heavy menstrual bleeding in 70 (47%), metorrhagia in 42 (28%). Details are given in table II.

Problems with the menstruation were found among 100 (66.7%) females after tubal ligation that was performed during cesarean section and in 50 (33.3%) after mini laparotomy done for sterilization. Eighty (53.3%) females reported improvement in symptoms with variety of hormones therapies. In 45 (30%) women improvement occurred after minor surgical procedure of dilatation and curettage along with conservative medical therapy. In 25 (16.6%) patients, conventional treatment did not show any improvement thus hysterectomy was performed.

DISCUSSION:

Women sterilization is one of the irreversible surgical methods for contraception which is also thought to be an effective permanent method that prevents the crossing of sperms through the uterine tube for fertilization.¹¹ After the ligation of uterine

Table I: Menstrual Problems In Different Age Groups After Tubal Ligation

Age (Year)	n=150 (%)
<25	22 (15.0%)
25-29	44 (29%)
30-34	40 (26.7%)
35-39	31 (20.7%)
>39	13 (8.7%)

Table II: Spectrum of Menstrual Problems After Tubal Ligation

Menstrual Problem	n=150 (%)
Menorrhagea	70 (47%)
Metorrhagea	42 (28%)
Polymenorrhagea	20 (13%)
Polymenorrhagea	10 (20%)
Dysmenorrhagea	8 (7%)

tube all the signs and symptoms that are related to menstruation are termed as post tubal ligation syndrome and include heavy blood loss, ovarian cystic changes and pelvic discomfort.¹² In our study abnormal uterine bleeding was the main indication for hysterectomy in 16.6% patients. A study from Lahore reported that more than 50% women were treated by surgical procedure like hysterectomy due to abnormal uterine bleeding.¹³

Another research done by Peterson et al on 95 female participants reported that the females experienced short menstruation for few days however no changes were noted in the period of menstrual cycle.¹⁴ Likewise, we found some changes in the duration and menstruation flow chiefly after the first year of the surgery.¹⁵ Another study reported that the menstrual disturbances in 36 to 46 years of age group but in this study we found more symptoms in 25 to 29 years of age group.¹⁶ However, Hills et al stated same menstrual abnormalities amongst non-sterilized females but the patients with history of tubal ligation had undergone the hysterectomy.¹⁷ One of the reasons behind it is the damage to the ovarian blood supply during the procedure. Parsanezed et al reported that tubal ligation may disturb the blood supply of adjacent structures and also disturb the release of biological active factors which are the causative factors of menstrual abnormalities.¹⁸ Studies from India reported that there was little change in menstrual habit pre and post sterilization menstruation, pain and in regularity of menstruation.¹⁹ Our study showed that patients who had sterilization were those who suffered by having menstrual disturbances like menorrhagia, metrorrhagia, polymenorrhoea, dysmenorrhea. However, reduced blood flow and reduced interval between menses can be associated in women who had undergone sterilization.²⁰ On the contrary, Shoberie and Atashkhoo reported that women sterilization does not result in menstrual disturbances.²¹ Many studies concluded that menstrual cycle irregularities like changes in interval, flow, and the duration are same in women with or without tubal ligation.^{22,23} This study showed that different types of menstrual problems were more common in women with sterilization. We found patients age and precaution during surgical procedure of sterilization are predictors of menstrual disorders.

It is Important that Patients should be counseled prior to having tubal ligation as an option for permanent contraception. Women should be informed and adequately briefed by the respective health care providers and read out all the possible

advantages and the disadvantages of tubal ligation. Moreover, in order to avoid impairment to the circulation of ovaries and fallopian tubes care must be taken during the procedure. However, adhesions between surrounding structures, fallopian tube, and ovaries can be treated during the surgery.

CONCLUSIONS:

Menstrual disturbances were frequently reported after tubal sterilization which were incapacitating in number of women, requiring medical management. In 16% females hysterectomy was ultimately performed.

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Shazia Shaikh: Study design.

Tanveer Fatima: Data collection.

Basma: Composition and data collection.

Shabana Soomro: Research search.

Rafia Baloch: Review of article.

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The authors declare that they have no conflict of interest.

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