

To Determine the Frequency of Menorrhagia in Patient who have Undergone Tubal Ligation

TAYYABA MAJEED, KANWAL SABA, RABIA HABIB KHOKHAR, FATIMA WAHEED

ABSTRACT

Objective: To determine the frequency of menorrhagia in patients who have undergone tubal ligation.

Study design: Cross-sectional study

Place and duration: This study was carried out in Gynaecology Deptt Lady Willingdon Hospital, from 1st January, 2010 to 30th June, 2010.

Patients and methods: The study was carried out during six months. Total 200 cases fulfilling the criteria were selected. Data collected on specially designed questionnaire.

Conclusion: In conclusion, from this study that tubal ligation does not cause menorrhagia.

Key words: Menorrhagia, tubal ligation.

INTRODUCTION

Menorrhagia defined as menstruation at regular cycle intervals but with excessive flow and duration and is one of the most common gynaecologic complaints in contemporary gynaecology. Clinically, menorrhagia is defined as total blood loss exceeding some per cycle or menses lasting longer than 7 days¹.

WHO reports that is million women aged 30-55 years perceive their menstrual bleeding to be exorbitant².

Reports show that only 10% of these women experience blood loss severe enough to cause anemia as be clinically defined as menorrhagia^{3,4}.

Tubal ligation is the permanent method of family planning most commonly used. An increase risk of developing menstrual abnormalities following tubal ligation has been a subject of debate for decades increased premenstrual distress, behaviour and more prolonged menstrual bleeding and increased dysmenorrheal has been reported in many studies.

Sterilization is mostly opted by females 30 years of age. Menstrual abnormalities occurring due to natural hormonal imbalance by this age is wrongly attributed to sterilization. This falsely related implication leads to non acceptance of sterilization by females, which deprives them of most effective method of contraception. Different studies have also proved this. According to one study conducted in Iran incidence of menorrhagia in cases and controls was found to be 19% and 30% respectively²¹. Disturbances in hypothalamic-pituitary axis activity is also often implicated. However, many recent investigators have not found significant changes,

except in women who undergo ligation between 20 and 29 years of age.

The aim of this study was to study the occurrence of dysfunctional uterine bleeding in women with prior history of tubal ligation.

More women in the United States have undergone tubal sterilization than are using any other single method of contraception²². It is a highly effective^{24,25} and safe^{26,27} procedure, but questions remain as to whether it causes menstrual abnormalities. Indeed, since 1951, when Willams et al²⁸ hypothesized that sterilization might increase a women's risk of abnormal bleeding, the existence of a post-tubal ligation syndrome has been debated. Although Willams et al. described abnormal bleeding as increased menstrual and intermenstrual bleeding; the post-tubal-ligation syndrome remains ill defined.

In view of reported consequences of ligation procedure this study was planned to determine effects of tubal ligation and risk of disruption of gynaecological health of women. Major compulsion was unique socioeconomic background of women in Pakistan with low literacy rate, young age marriages, overall low contraception practice and prevalence of sterilization as method of choice. Study will help in negating the myth that menorrhagia occurs after tubal sterilization, thus promoting its acceptance as effective contraception.

PATIENTS AND METHODS

The study was carried out in Gynaecology Deptt. Lady Willingdon Hospital, Lahore. The study was conducted six months 1st July, 2010 to 30th June, 2010 a total of 200 patients attending out patient department were selected. Verbal consent was taken before conducting interview. Subjects were assured of confidentiality of their identity. Information on

Department of Obstetrics & Gynaecology, King Edward Medical University/Lady Willingdon Hospital, Lahore.

Correspondence to Dr. Tayyaba Majeed, Assistant Professor Email: dr.tayyaba@hotmail.com

demographic, obstetrics, medical and menstrual bleeding pattern of all subjects were taken. During data analysis frequencies and percentages were calculated for menorrhagia.

RESULTS

This study has been carried out on 200 women at Lady Willingdon Hospital to assess the effect of tubal sterilization on menstrual cycle. All women aged 30 to 46 years were selected from a low-income urban population, with body weight between 50 to 90kg. Those who had intrauterine device (IUD), leiomyoma on sonography, uterine size of greater than 9 cm or suffered from medical disorders were excluded from study. Those who were at least 30 and at most 46 years of age by the time of tubal ligation and had Pomeroy type of interval tubal ligation via minilaprotomy were included in the study. Finally, considering the exclusion and inclusion criterias, 200 subjects were evaluated for menstrual abnormality in form of menorrhagia.

Sixty percent patients belonged to the lower socioeconomic status and 40% to the middle socioeconomic group. Majority of the women were housewives. As regards to educational status, 30% were illiterates. Their age ranged from 30 to 46 years. Based on age two groups were made 30-39 years, and 40-46 years. Subjects were inquired about menorrhagia by asking about cycle length, cycle regularity, menses length, and flow volume.

Table 1: Age distribution of cases

Age in year	n=	%age
30-39	112	56
40-46	88	44
Total	200	100

Table II; Frequency of menorrhagia

Status	Frequency	%age
Menorrhagia present	41	20.5
Menorrhagia absent	159	79.5
Total	200	100

Table III: Educational status

Educational Status	Frequency	%age
Illiterate	59	29.5
Literate	141	70.5
Total	200	100

Table-IV: Socioeconomic status

Socioeconomic Status	Frequency	%age
Low Class	121	60.5
Middle Class	79	39.5
Total	200	100

DISCUSSION

There are some factors other than sterilization per se that may have influences on post sterilization menstrual changes. Two such factors are the use of oral contraceptives and IUD. The women who use oral contraceptive may have some menstrual changes after sterilization attributable solely to cessation of oral contraceptive (OCP) use. In order to exclude the interventional effect of IUD and oral contraceptive, we included patients who did not use them during one year before sterilization. Since the type of tubal sterilization may have effects on study results, we included only Pmeroy type of interval sterilization by minilaparotomy.

In study 200 patients were selected based on inclusion and exclusion criteria. All the patients were inquired about menstrual changes. 159 patients reported no changes and 41 patients reported increased menstrual flow. The original concern about sterilization involved the risk of heavy bleeding¹⁴. Earlier reviews^{5,6,7} on the subject dealt with gynaecological status and emotional consequences of tubal ligation when neither the technology was very advanced nor ligation was a preferred recourse. It has been reported that one of the most common postligation gynaecological symptoms is dysfunctional uterine bleeding^{8,9}. This has been observed in the present investigation as well. That tubal ligation is followed by a sequence of menstrual alterations has also been demonstrated in more recent studies^{10,11}. Other investigators¹² have not been able to confirm this observation, but we found no evidence of problem.

Furthermore, we found that women who underwent sterilization were likely to have decreases in the amount of bleeding, the number of days of bleeding. We know of no biologic explanation for these changes, most of which were beneficial, in women after tubal ligation. Perhaps most important, none of the findings were noted consistently in other studies. For example, of three other U.S. studies of cycle irregularity in women who underwent or did not undergo sterilization^{15,16,17} only found women who had undergone sterilization to have an increased risk of cycle irregularity.

Here questions arise will a tubal ligation change menstruation? Because tubal ligation is so common, any adverse effects would have a large impact. Concern about subtle or delayed adverse effects has been brewing ever since sterilization became prevalent in the 1970s. Increased or abnormal menstrual bleeding, with consequent hysterectomy, was widely reported in uncontrolled case series¹⁸.

One proposed explanation was that sterilization led to changes in ovarian endocrine function as a result of direct neurovascular disruption, but in fact, sterilization does not cause changes in ovarian function¹⁹. An important confounding variable has proved to be the use of oral contraceptives before sterilization. Women who take a combination oral contraceptive often have greater menstrual regularity and decreased menstrual pain and flow.

Thus, women who stop taking the oral contraceptive and undergo tubal sterilization may have menstrual changes that they attribute to the surgery rather than to discontinuation of the oral contraceptive pills. There are also typically a change in the menstruation pattern when patients get older and this is a natural process due to the uterus changing its shape and size with aging. A sterilization will not be the cause of the above mentioned changes and the results in our study proves this statement.

Women who undergo sterilization between 20 and 29 years of age have more menstrual irregularities than women who undergo the procedure after age 30. In order to exclude this factor, we included only the patients with at least 30 and at most 46 years of age by the time of sterilization. The results show that the most common age group of menstrual irregularities is 30-39 years. These results are similar to those of Wilcox et al¹³ and Shy et al who found that sterilization younger ages leads to more menstrual irregularities than sterilization at older ages.

CONCLUSION

Among women using neither hormonal nor intrauterine contraception before the sterilization, more than half reported no change in their menstrual patterns after their sterilization operation. A substantial minority (percent) did report change. The changes included improvement in some parameters as well as changes for the worse. For example, more women reported their menstrual patterns became regular than irregular.

In general, women whose menstrual patterns are abnormal at the time of the sterilization procedure are more likely to experience change than women with more average menstrual patterns.

REFERENCES

1. Zentralbl Gynakol 1989; 111(16): 1124-7.
2. Halberg L, Nilsson L. Determination of Menstrual Blood Loss. Scand J Clin Lab Invest. 1964;16: 244-8.
3. Goldrath MH. Hysteroscopic endometrial ablation. Obstet Gynecol Clin North Am. Sep 1995; 22(3): 559-72.
4. Fraser IS, Warner, P, Marantos PA. Estimating menstrual blood loss in women with normal and excessive menstrual fluid volume. Obstet Gynecol. Nov 2011; 98 (5 Pt 1): 806-14.
5. Haynes DM, Wolfe WM. Tubal sterilization in an indigent population. Report of fourteen years, experience. Am. J. Obstet. Gynecol. 1870; 106(7): 1044-53.
6. Muldoon MJ. Gynaecological illness after sterilization. Br. Med. J 1972; 1(972): 84-5.
7. Schwyhart WR, Kutnea SJ. A reanalysis of female reactions to contraceptive sterilization. J. Nerv. Ment. Dis. 1973; 156: 354-70.
8. Lu T, Chun D. A long term follow up study of 1,055 cases of post partum tubal ligation. J. Obstet. Gynecol. Br. Commonw. 1967; 74(6): 875-80.
9. Rubinstein LM, Lebherz TB, Kleinkopf V. Laproscopic tubal sterilization: long term postoperative follow up. Contraception 1976; 13(5): 631-8.
10. Harhgrove JI, Abraham GE, Lane H. Endocrine profile of patients with post – tubal ligation syndrome. J. Reprod. Med. 1981; 26(7) 354-65.
11. Hakverdi AU, Taner CE, Erden AC, Statici O. Changes in ovarian function after tubal sterilization. Advanv. Contraception. 1994; 10: 51-6.
12. Williams EL, Jones HE, Merrill E. The subsequent course of patients sterilized by tubal ligation. Am. J. Obstet. Gynecol. 1951; 61: 423-6.
13. Wilcox SL, Martinez-Schnell, B., Peterson, H.B. Ware, J.H., Hughes, J.M. (1992). Menstrual functional after tubal sterilization. Am J Epidemiol. 135, 1368-81.
14. Willams EL, Jones HE, Merrill RE. The subsequent course of patients sterilized by tubal ligation: a consideration of hysterectomy for sterilization. Am J Obstet Gynecol 1951; 61: 423-426.
15. DeStefano F, Periman JA, Peterson HB, Diamond EL. Long-term risk of menstrual disturbances after tubal sterilization. Am J Obstet Gynaecol 1985; 152: 835-841.
16. Rulin MC, Davidson AR, Philliber SG, Graves WL, Cushman LF. Long-term effect of tubal sterilization on menstrual indices and pelvic pain. Obstet Gynecol 1993; 82: 118-121.
17. Shain RN, Miller WB, Mitchell GW, Holden AEC, Rosenthal M. Menstrual pattern change 1 year sterilization; results of a controlled, prospective study. Fertil Steril 1989; 52: 192-203.
18. Wright RC. Hysterectomy: past, present, and future. Obstet Gynecol. Apr 1969; 33(4): 560.3.
19. Gentile G, Helbig D, Westhoff C, et al. Hormonal levels in women before and after tubal sterilization. Presented at Male and Female Sterilization: Medical effects and Behavioral Issues, National Institute of Child Health and Human Development, Bethesda, MD., June, 1998.
20. Well A, Baumann U, Schenk W. Long-term effects of interval laparoscopic sterilization by bipolar electrocoagulation on menstruation. 227: 2: 141-146.
21. Shoberi MJ, Atashkhoui S. The risk of menstrual abnormalities after tubal sterilization. BMC Women's Health 2005; 5:5.

22. Janet R. Albers, Sharon K. Hull, Robber M. Wesley. Abnormal uterine bleeding. *Am Fam Physician* 2004; 69: 1915-26.
23. Piccinino LJ, Mosher WD. Trends in contraceptive use in the United States: 1982-1995. *Fam Plann Perspect* 1998; 30: 4-10.
24. Peterson HB, Xia Z, Hughes JM, Wilcox LS, Tylor LR, Trussell J. The risk of pregnancy after tubal sterilization: findings from the U.S. Collaborative Review of Sterilization. *Am J Obstet Gynecol* 1996; 174: 1150-1154.
25. Peterson HB, Xia Z, Hughes JM, Wilcox LS, Tylor LR, Trussell J. The risk of ectopic pregnancy after tubal sterilization. *N Engl J Med* 1997; 336: 762-767.
26. Escobedo LG, Peterson HB, Grubb GS, Franks AI. Case-fatality rates for tubal sterilization in U.S. hospitals, 1979 to 1980. *Am J Obstet Gynecol* 1989; 160: 147-150.
27. DeStefano F, Greenspan JR, Dicker RC, Peterson HB, Strauss Lt, Rubin GL. Complications of interval laparoscopic tubal sterilization. *Obstet Gynecol* 1983; 61: 151-158.
28. Williams EL, Jones HE, Merrill RE. The subsequent course of patients sterilized by tubal ligation: a consideration of hysterectomy for sterilization. *Am J Obstet Gynecol* 1951; 61: 423-426.