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Brief Communication

Is Previous Tubal Ligation a Risk Factor for Hysterectomy because of Abnormal Uterine Bleeding?

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Abstract

Objectives: Post tubal ligation syndrome (PTLS) is a term used to describe a variety of post tubal ligation side effects or symptoms. These include increased menstrual bleeding and hysterectomy. Whether or not post tubal syndrome is a real entity, it has been a subject of controversy in the medical literature for decades. Numerous studies have reported conflicting conclusions about these symptoms. In this study the incidence of hysterectomy for bleeding disorders among sterilized women was compared with the incidence of hysterectomy for bleeding disorders among non-sterilized female population of the same age.

Methods: This study was carried out on 160 women, 38-52 years, who underwent hysterectomy in Amir University Hospital, Semnan, Iran, from September 2008 to September 2011. After gathering of data from medical records, in this study, the incidence of hysterectomy for bleeding disorders among sterilized women was compared with the incidence of hysterectomy for bleeding disorders among nonsterilized female population for the same age.

Results: The mean age of the study group was 44/4±5/7 and the mean age of the control group was 45/2±5/3, (p=0.424). The mean parity of the study group was 3/8±1/8 and the mean parity of the control group was 3/5±1/4, (p=0.220). So, in regard to age and parity, two groups were matched. Hysterectomies were performed for 160 cases and abnormal uterine bleeding was the cause of hysterectomy in 67 cases. Among 67 cases, 19 cases (37.3%) had previous tubal sterilization + hysterectomy (study group) and 48 cases (44%) were not undergoing tubal sterilization but had hysterectomy for abnormal bleeding causes (control group). Statistical analyses showed that there were not significant differences between two groups, (RR=0.85; 95% CI: 0.56-1.28; p=0.418).

Conclusion: The result of this study showed that previous tubal sterilization is not a risk factor for undergoing hysterectomy because of abnormal uterine bleeding.

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Keywords: Tubal ligation; Post tubal ligation syndrome; Hysterectomy.

Introduction

Tubal sterilization is the method of family planning most commonly used.[1] About 30% of women with completed family planning choose tubal ligation as a method of contraception.[2] All techniques of tubal ligation in widespread use in the United States have low risk of surgical complications.[3] This routine procedure is a very safe and highly effective method of permanently controlling fertility.[4] There is a recent decline in sterilization in United States because of improved access to a wide range of highly effective reversible contraceptive methods.[5]

The probability causes of regret after tubal sterilization are young age, decision made by other person, and doing sterilization up to 45th day after childbirth,[6] but menstrual irregularity and dysmenorrhea did not influence regret to a large extent.[7] The term post tubal sterilization syndrome has been used variously to include abnormal menstrual bleeding, dysmenorrhea, premenstrual distress, hysterectomy and miscellaneous other conditions like need for recanalization, feeling of regret, and menopausal syndrome.[8] The syndrome is caused by blood circulation problems in and around the fallopian tubes and ovaries, pressure on nerves and intrapelvic adhesion.[9] The relative risk of hysterectomy because of bleeding disorders subsequent to tubal sterilization is increased.[10]

In this study, the incidence of hysterectomy for bleeding disorders among sterilized women was compared with nonsterilized female population of the same age.

Methods

This study was carried out on 160 women, 38-52 years old, who underwent hysterectomy in Amir University Hospital, Semnan, Iran, from September 2008 to September 2011. The exclusion criteria were women who underwent hysterectomy for causes of nonabnormal uterine bleeding, presence of leiomyomas (intramural or submucosal) or adenomyosis in pathology findings, coagulopathies and tubal ligation with non-Parkland method.

In 160 consecutive women, 38-52 years old who underwent

hysterectomy, the causes of hysterectomy were considered. Patients were divided in two groups. The study groups were patients who had previous tubal sterilization with the Parkland method and underwent hysterectomy because abnormal uterine bleeding and the control groups were patients who underwent hysterectomy because of abnormal uterine bleeding causes and did not undergo tubal sterilization.

Statistical analyses were performed using student's t-test in SPSS15 Computer software. Also, we calculated the Relative Risk (RR) and its 95% Confidence Interval (CI). The *p*-value less than 0.05 were considered statistically significant.

Results

The mean age of the study group was 44.4±5.7 and the mean age of the control group was 45.2±5.3, (p=0.424). The mean parity of the study group was 3.8±1.8 and the mean parity of the control group was 3.5±1.4 (p=0.220). The mean age and parity was not significantly different between the two groups. Hysterectomies were performed for 160 cases and abnormal uterine bleeding was the cause of hysterectomy in 67 cases. Among 67 cases, 19 cases (37.3%) had previous tubal sterilization + hysterectomy (study group) and 48 cases (44%) did not undergo tubal sterilization but had hysterectomy for abnormal bleeding causes (control group). Statistical analyses showed that there were no significant differences between the two groups (RR=0.85; 95% CI: 0.56-1.28; p=0.418).

Table 1: Demographic Characteristics of studied population.

Characteristics	Study group	Control group	Significance
Age (years)	5.7±44.4	5.3±45.2	p=0.424
Parity (number)	1.8±3.8	1.4±3.5	p=0.220
Pre operative mean hematocrit level	4.15±30.23	4.47±32.25	p=0.001
Previous gynecologic operation	1.4±2.8	1.4±2.6	p=0.001

Table 2: Mean and Standard (SD) of age and parity of women with and without TL.

Characteristic	Tubal Ligation(TL)							
	+				-			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Age	44.4	5.7	33	55	45.2	5.3	31	55
Parity	3.8	1.8	0	9	3.5	1.4	2	8

Table 3: Cause of hysterectomy (AUB or Non AUB) in women with and without TL.

AUB*	Tubal Ligation(TL)			
	+		-	
	n	%	n	%
+	19	37.3	48	44.0
-	32	62.7	61	56.0

* *AUB: Abnormal Uterine Bleeding*

Discussion

Post tubal sterilization syndrome, especially menstrual irregularities and hysterectomy are important complications and there are lots of controversies in regard to these complications. Most recent studies concluded that tubal sterilization does not cause menstrual irregularities. Shobeiri et al. concluded that tubal sterilization does not cause menstrual abnormalities[1] and Fagundes et al. study showed that no changes in the menstrual pattern could be observed 6 months after tubal sterilization.[11] Peterson et al. study on 95 women who underwent tubal sterilization approved that there are no persistent changes in intermenstural bleeding or the length of the menstrual cycle but they have more decrease in the number of days with bleeding.[12]

Bernard et al. concluded that length of cycle, menstrual irregularity, length of mensturation, flow volume, dysmenorrhea and hormone levels are similar in women with and without tubal legation, but parous women with a history of cesarean section and tubal ligation more than 5 years of age experienced a marginal increase in volume of menstrual flow compared with women who did not undergo tubal ligation.[13]

Centilt et al. reported that tubal sterilization is not associated with an increased risk to undergo the operative procedure after age 30 years but there may be some increased risk for young women.[14]

Mackenzie et al. demonstrated that 6% of patients after sterilization undergo hysterectomy or endometrial ablation because of abnormal uterine bleeding,[15] but tubal sterilization is not a risk factor for hysterectomy because of abnormal uterine bleeding. So, the result of this study is compatible with the mentioned study.

Ozerkan et al. approved that some kind of menstrual pattern changes happened in 7.6% of cases after tubal sterilization,[16] and these are mild changes. Thus, the result of his study is compatible to this study because it does not seem to be a risk factor for hysterectomy.

Alison Mall et al. demonstrated that previous tubal ligation is a risk factor for hysterectomy after an ablation and the incidence of pathologically confirmed post ablation tubal sterilization syndrome is 6%[17] and in our study previous tubal ligation was not a risk factor for hysterectomy in cases with abnormal uterine bleeding.

Huber et al. reported that laparoscopic approach should be chosen for female sterilization because the complication rate of minilaparotomy are more frequent than laparoscopic approach[18] while Moore et al. reported a case of a delayed emergency department presentation of a major vascular injury after laparoscopic tubal ligation.[19]

In this study, all tubal sterilization were performed by minilaparotomy approach and abnormal uterine bleeding as a cause of hysterectomy was not significantly different between sterilized and unsterilized groups.

Conclusion

Overall, this study showed that menstrual irregularities are not a cause of hysterectomy in patient with previous tubal sterilization by minilaparotomy approach.

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