

Effect of hysterectomy on Pelvic Floor Disorders

REZVAN MIRZAEI¹, BAHAR MAHJOUBI¹, MASTOUREH MOHAMMADIPOUR¹, RASOUL AZIZI², HAMIDREZA KADKHODAEI²¹ Colorectal research center, Hazrat-e-Rasoul Hospital, Iran University of Medical Sciences and Health Services, Tehran, Iran² Department of Surgery, Hazrat-e-Rasoul Hospital, Tehran University of Medical Sciences and Health Services, Tehran, Iran

Abstract: AIMS. This study was designed to assess the effect of subtotal abdominal hysterectomy on pelvic floor disorders and anorectal function. **Methods:** Forty-seven women awaiting subtotal abdominal hysterectomy were included in this cross-sectional study by a non-probability convenience sampling method. Their anorectal function was assessed by a questionnaire and anorectal manometry before and 6 months after hysterectomy. **Results:** Our subjects did not frequently have defecation problems and results of baseline manometric study were in coordination with the clinical feature. In the current study, increased number of parities, BMI and age were not significantly correlated with manometry values. At follow up, all patients were well and none of them had any defecation disorder or complication, so only 3 of them accepted to undergo the follow up manometry. **Conclusions:** This study reports the manometric results of 47 healthy Iranian women, so provides a basic manometric data of Iranian women. This research detected no defecation disorder or manometric abnormality associated with subtotal abdominal hysterectomy, so this study suggests that this operation is an appropriate alternative to total abdominal hysterectomy which can cause more complications.

Keywords: Hysterectomy; Pelvic Floor Disorder; Manometry.

INTRODUCTION

Fecal continence is a result of complex integration between the anal sphincter, pelvic floor, rectal perception, and rectal compliance.^{1,2} Tests of anorectal function are means of clinical examination and very useful to diagnose anorectal disorders. Anorectal manometry is a noninvasive test for objective evaluation, diagnosis, and treatment of disorders of the anorectum and is one of the most-important methods for evaluation of continence and to diagnose functional disorders of defecation.¹⁻⁷

Studies suggest that abdominal hysterectomy affects anorectal function and some adverse effects are reported on colonic motility but the exact effects are incompletely understood.⁸⁻¹¹ It is not clear that patients awaiting hysterectomy already have a kind of pelvic floor failure or it is related to obstetric risk factors, so this study was designed to evaluate both basic manometric data of Iranian women and also the effect of subtotal abdominal hysterectomy on pelvic floor disorders and anorectal function.

MATERIALS AND METHODS

This cross-sectional study aimed to measure parameters of anorectal function before and after subtotal abdominal hysterectomy.

During 2008-2009, forty-seven subjects were included in this cross-sectional study by a non-probability convenience sampling method. Their anorectal function was assessed by a questionnaire and anorectal manometry before and 6 months after hysterectomy. The questionnaire included variables such as age, occupation, weight and height, parity, type of deliveries, history of constipation (less than 3 defecations per week), gas or fecal incontinence, difficult defecation or urgency, history of bloody stool and laxative or drug consumption. The history of defecation disorders considered positive only if the patient experienced it always or most of the time. Patients with inflammatory bowel disease, abdominal/anorectal surgery or history of radiotherapy were excluded.

Twenty-six patients were evaluated in a remedial hospital using a portable water-perfused manometer and the other 21 patients were selected from an educational center and were evaluated with a solid-state manometer.

For the patients who did not accept to undergo follow up manometric examination, questionnaire was completed via a phone call.

Statistical analysis: Data are presented as mean (SD) for continuous variables and count (percentage) for categorical variables. The chi-square test for testing the significance of difference of proportions and two-tailed independent sample T-test and one-way analysis of variance (ANOVA) for testing the significance of the difference of means were used. Correlation of anorectal pressures with age, BMI and number of deliveries was calculated using Pearson's correlation equations. Statistical significance was accepted at p value < 0.05. Statistical analysis was done by SPSS® for windows version 16.

RESULTS

Forty-seven subjects were included in the study with the mean age of 48.47 (7.70) years and mean body mass index

TABLE 1. History of defecation disorders in the 47 patients.

	(n = 47)
Painful defecation	18 (39.1%)
Gas incontinence	10 (21.7%)
Watery stool incontinence	8 (17%)
Digital assistance during defecation	12 (25.5%)
Urgency for defecation	20 (42.6%)
Leakage of stool	6 (12.8%)
Constipation	7 (14.9%)

TABLE 2. Results of anorectal manometry.

	(n = 47)
Rest profile:	
Anal sphincter length	4.29 (0.58)
Distance from Verge to Maximum pressure (cm)	2.14 (0.72)
Pressure over high pressure zone (mmHg)	15.8723 (8.37)
Maximum Pressure (mmHg)	86.68 (43.00)
Peak Pressure (mmHg)	43.84 (18.13)
Asymmetry	23.73 (15.83)
Squeeze profile:	
Distance from Verge to Maximum pressure (cm)	2.65 (2.59)
Maximum pressure (mmHg)	114.54 (60.05)
Average peak pressure (mmHg)	65.65 (33.69)
Asymmetry	29.34 (29.34)

(BMI) of 30.07 (6.45) kg/m². Most subjects were housekeepers (87.2%) and mostly (73.9%) undergraduate. Mean parity number was 3.51 (1.82), with mean 3.30 (1.88) normal deliveries and mean 0.21 (0.46) number of cesarean sections. No patient suffered constipation.

As shown in Table 1, our subjects did not frequently have defecation problems and results of baseline manometric study were in coordination with the clinical feature (Table 2). In the current study, increased number of parities, type of delivery (vaginal or caesarian section), BMI and age were not significantly correlated with manometry values ($p > 0.05$).

At follow up, all patients were well and none of them had any defecation disorder or complication or any changes in comparison to the preoperative condition, so only 3 of them accepted to undergo follow up manometry (postoperative) whose manometric results had also no change ($p > 0.05$).

DISCUSSION AND CONCLUSIONS

This study was designed to evaluate the effect of subtotal abdominal hysterectomy on anorectal function. Patients were studied before by a questionnaire and anorectal manometry and were followed 6 months later. At follow up, questionnaire was completed on a phone call and all patients were asked to come for manometric examination. None of the patient had any new defecation problem or any changes in anorectal function, so most of them refused to undergo follow up anorectal manometry.

In contrast to previous studies which reported adverse effects of total abdominal hysterectomy on anorectal function^{8, 12} and quality of life,¹³ our subjects who were awaiting hysterectomy had no physiological and manometric abnormalities on behalf of pelvic floor disorder.

Although bowel complaints are common after radical hysterectomy, the effects of this surgery are poorly understood on anorectal function¹¹ and some studies suggested a possible link between fecal incontinence and abdominal hysterectomy.¹⁰ The present study detected no defecation disorder or manometric abnormality associated with subtotal abdominal hysterectomy, so this study also suggests that this operation is an appropriate alternative to total abdominal hysterectomy which can cause more complications.^{8-11, 14} Also in this study no difference was present between subjects according to the type and number of previous deliveries, which shows that vaginal deliveries or caesarian sections have had no effect on anorectal function in this group of women.

As the population in the present research was a sample of healthy women with no underlying defecation disorders, the manometric results can be mentioned as baseline manometric values in our community.

The study had some limitations such as the difference of manometer in two hospitals. Although the exam was performed by the same professional colorectal surgeon in both hospitals and according to the other studies with portable manometer, this factor should have caused no bias in the current evaluation. Another problem was that most of our patients refused to undergo postoperative manometry, and we could not force them to do it regarding ethical points.

The same as the review study,¹⁵ this research also recommends randomized controlled trials to evaluate the effects of hysterectomy on pelvic floor function.

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DISCLOSURE STATEMENTS

The Authors declare that there was no conflict of interest, informed patient consent was obtained, and the study was approved by the local ethical committee

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Correspondence to:

Professor Mastoureh Mohammadipour
Satarkhan, Tehran 09821 Tehran, United States
E-mail: mohammadi_mst@yahoo.com