

Pelvic Floor Disorders Following Hysterectomy for Benign Conditions of Uterus and Endometrial Carcinoma - A Long-term Follow-up Study

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Abstract

Background: Vaginal vault prolapse occurs usually as a consequence of prior hysterectomy. Other causes are inborn or age dependent insufficiency of soft tissue, damage to the pelvic floor during and after childbirth and obesity (>BMI) and other conditions that increase intra-abdominal pressure.

Aim of the Study: To study measured symptoms of pelvic floor disorders (PFD) and their effect on quality of life in post Hysterectomy women for Benign and Malignant lesions of Endometrium.

Materials and Methods: 134 women with post Hysterectomy history were included. Demographic data, height, weight, BMI, time since surgery, Staging of endometrial carcinoma, type of hysterectomy, menopausal status, hormone replacement status, smoking status, parity, and number of vaginal deliveries were elicited. Severity of the symptoms of (PFD) Pelvic Floor Distress Inventory (PFDI-20) was used. This consisted of 3 subscales: Urinary Distress Inventory (UDI-6), Pelvic Organ Prolapse Distress Inventory (POPDI-6), and Colorectal-Anal Distress Inventory (CRADI-8).

Observations and Results: 134 women were divided into 2 groups. Group A patients who have undergone Hysterectomy for benign conditions of endometrium and group B for malignant conditions of endometrium. Age groups were 30 -60; mean age of 44.72±4.60 years. In group A, PFD symptoms of POPDI-6 were 46/84 (54.76%), CRADI-8 were 57/84 (67.85%) and UDI-6 were 61/84 (72.61%) patients. In group B, PFD symptoms of POPDI-6 were reported by 33/50 (66%), CRADI-8 by 32/50 (64%) and UDI-6 by 30/50 (60%) patients.

Conclusions: Prevalence of Pelvic Floor Disease is higher in our study of Post Hysterectomy women undergoing for both benign and malignant indications. The degree of symptoms most commonly was mild but the patients should be enquired about these symptoms that are possible. There was more than one organ system of pelvic floor that was involved.

Key words: Benign, Hysterectomy, Malignant and endometrium, Pelvic floor, Quality of life

INTRODUCTION

Hysterectomy is one of the most common surgeries performed worldwide for various benign and malignant conditions of the uterus apart from its endometrial diseases. Posthysterectomy patients are likely to develop pelvic floor disorders (PFDs) during their post-operative

period. The common symptoms of these PFDs are urinary incontinence, pelvic organ prolapse, and fecal incontinence. There are many reports in the literature giving the prevalence of PFD in general population to be 23.7%; 15.7% of women experiencing urinary incontinence, 2.9% pelvic organ prolapse, and 9.0% experiencing fecal incompetence.^[1] A woman reporting at least one complaint of PFD increases proportionately with age, gravidity, increased parity, and body mass index (BMI).^[2] This leads to increased surgeries to correct pelvic floor and in the USA more than 338,000 such procedures undertaken annually.^[3,4]

In an Indian study based at Ahmadabad, it was found that 9.8% of rural women and 5.3% of urban insured

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women had had a hysterectomy, compared to 7.2% and 4.0%, respectively, of uninsured women; one-third of the hysterectomy patients were below 35 years of age.^[5] It was reported that among the risk factors, prolapse of uterus was the main factor resulting in PFD.^[6,7] Among the malignant conditions, carcinoma of the endometrium is the most common indication for hysterectomy. As more than 75% of the cases of endometrial carcinoma are diagnosed in Stage-I, for which the indicated surgery is hysterectomy.^[8,9] Several immediate and long-term complications are described in literature following hysterectomy such as mild-to-severe morbidity, ureteral injuries, bowel injuries, bladder injuries, and hemorrhage.^[10] There are not many studies about the prevalence of PFD in posthysterectomy patients published in the literature.^[11] The present study was conducted in this context to identify the prevalence of symptoms of PFD in posthysterectomy patients the indications being both benign and malignant diseases of the endometrium; in addition to assess the impact of PFD on patient quality of life.

MATERIALS AND METHODS

This study was cross-sectional study of 134 women who had undergone hysterectomy and presenting with symptoms of PFD. An ethical committee clearance was obtained; consent form approved by the committee was used. The 134 patients included were divided into two groups. Group A consisted of 84 women who underwent hysterectomy for benign conditions of endometrium. Group B consisted of 50 women who underwent hysterectomy for malignant conditions of the endometrium.

Inclusion Criteria

1. Patients aged between 30 and 60 years were included.
2. Patients who have undergone hysterectomy more than 1 year ago were included.
3. Patients who have undergone hysterectomy for both benign and malignant conditions of the endometrium are included.
4. Posthysterectomy patients with at least one symptom of PFD were included.

Exclusion Criteria

1. Patients aged below 30 and above 60 years were excluded.
2. Patients who are nulliparous were excluded.
3. Patients with BMI below 25 were excluded.
4. Patients who have undergone radiotherapy following hysterectomy were excluded.
5. Patients who have undergone surgeries for PFD were excluded.

Demographic data were collected in a printed pro forma approved by the ethical committee which included

age, height and weight, time since surgery, staging of endometrial carcinoma, type of hysterectomy, menopausal status, hormone replacement status, parity, and number of vaginal deliveries. To assess the severity of the symptoms of PFD inventory (PFDI-20)^[12] was used. This consisted of three subscales: Urinary distress inventory (UDI-6), pelvic organ prolapse distress inventory (POPDI-6), and colorectal-anal distress inventory (CRADI-8).^[12] Each inventory consisted of 6, 6, and 8 questions, respectively. They were answered with a 4-point Likert scale: 1- not at all to 4- quite a bit. Only the mean values of all answered items are multiplied by 25 to determine the scale score (range 0–100). Higher scores denote a greater symptom or impact score.^[13] All the data were analyzed with standard statistical methods.

OBSERVATIONS AND RESULTS

A total of 134 women were divided into two groups. Group A patients who have undergone hysterectomy for benign conditions of endometrium and Group B for malignant conditions of endometrium. The demographic data of the Group A women included showed that they belonged to ages between 30 and 60 years with a mean age of 44.72 ± 4.60 years. The mean values of weight and height are shown in Table 1. 26 women had attained menopause (30.95%) and 62 had not (73.80%). 55 patients had undergone abdominal hysterectomy and 29 (65.47%) had undergone vaginal hysterectomy (34.52%). Of a total follow-up of 5 years of in the present study, the time lapse between the hysterectomy and appearance of PFD symptoms was observed in 47/84 patients (55.95%) within 3 years and 37/84 patients (44.04%) complained of symptoms after 3 years. The relation of posthysterectomy patients and their parity is shown in Table 1. 23 (27.83%) patients required hormonal replacement as they had undergone total hysterectomy-salpingo-oophorectomy [Table 1].

The demographic data of the Group B women (50 patients) included showed that they also belonged to ages between 30 and 60 years with a mean age of 54.24 ± 3.10 years. The mean values of weight and height are shown in Table 2. 8 women had attained menopause (16%) and 62 had not (84%). All the patients had undergone abdominal hysterectomy. Of a total follow-up of 5 years of in the present study, the time lapse between the hysterectomy and appearance of PFD symptoms was observed in 28/50 patients (56%) within 3 years and 22/50 patients (44%) complained of symptoms after 3 years. The relation of posthysterectomy patients and their parity is shown in Table 2. All the (100%) patients required hormonal replacement as they had undergone total hysterectomy-salpingo-oophorectomy [Table 2].

Table 1: The demographic data and gynecological and obstetric risk factors of Group A (n=84)

Observation	Group A- 84			Percentage
	Mean weight	Mean height	Mean BMI	
Age				
30–40 years - 38	64.25±0.30	5.30±1.10	30	45.23
40–50 years - 27	68.30±0.50	5.42±1.30	34	32.14
50–60 years - 19	67.40±0.40	5.55±1.50	35	22.61
Menopausal state				
Yes	26	--	--	30.95
No	62			73.80
Type of hysterectomy				
Abdominal	55	--	--	65.47
Vaginal	29			34.52
Time lapse after surgery (year)				
1–2	23	-	-	27.38
2–3	24			28.57
3–4	22			26.19
4–5	15			17.85
Parity				
1	17	-	-	28.56
2	23			27.38
3	15			17.85
4	14			19.04
5	15			17.85
Number of vaginal deliveries				
1	16	-	-	19.04
2	36			42.85
3	21			25
4	11			13.09
Hormonal replacement				
Yes	23	-	-	27.83
No	61			72.61

BMI: Body mass index

In Group A pelvic symptoms of POPDI-6 were reported by 46/84 (%), CRADI-8 by 57/84 (%), and UDI-6 by 61/84 (%) patients. These findings demonstrate that Group A patients had more than one PFD symptoms [Table 3].

In Group B pelvic symptoms of POPDI-6 were reported by 33/50 (%), CRADI-8 by 32/50 (%), and UDI-6 by 30/50 (%) patients. These findings demonstrate that Group A patients had more than one PFD symptoms [Table 4].

DISCUSSION

Vaginal vault prolapse occurs usually as a consequence of prior hysterectomy. Other causes are inborn or age dependent insufficiency of soft tissue, damage to the pelvic floor during and after childbirth and obesity (>BMI) and other conditions that increase intra-abdominal pressure.^[14,15] Post Hysterectomy women are prone to Pelvic Floor Diseases could be due to excision of the parametrium which is typically the elasto- fibromuscular support tissue for the vaginal cuff. In Urogynaecologic researches the PFDI-20 can be used to measure the extent of lower urinary tract, colorectal-anal, and pelvic organ prolapse symptoms and how they affect the quality of life of these

women. They are found to be validated, reliable, and responsive to change.^[16,17] These patient-oriented subjective evaluation methods are recommended for improving the quality of clinical research projects and play an important role in fixing the goals for Healthcare Research and Quality.^[12] In the present study of follow up of 5 years post Hysterectomy women the prevalence of PFD among benign conditions of the endometrium were ranging from 51.85% to 56.61%. In Post Hysterectomy for endometrial carcinoma the prevalence was ranging from 66 to 60%. This is higher than the prevalence reported in the literature among the general population as 23.7%.^[11] This can be explained by the fact that in group B women the procedure involved the wide dissection of uterus, fallopian tubes and ovaries with lymphadenectomy than seen hysterectomy for benign conditions. In the present study this difference was similar in regards with parity, BMI and age of the women. Review of literature has shown that hysterectomy increases the risk of PFDs.^[18-20] The cumulative risk of developing PFDs rises from 1% at 3 years to 5% at 15 years.^[21] In the present study women with symptoms, most were in the mild range in group A (Table 3) and severe in Group B (Table4). In similar studies the authors have observed that although symptomatic pelvic floor distress has been

Table 2: The demographic data and gynecological and obstetric risk factors of Group B (n=50)

Observation	Group B - 50			Percentage
	Mean weight	Mean height	Mean BMI	
Age (year)				
30–40-03	64.25±0.30	5.30±1.10	30	6
40–50-12	68.30±0.50	5.42±1.30	34	24
50–60-35	67.40±0.40	5.55±1.50	35	70
Menopausal state				
Yes	08	-	-	16
No	42			84
Type of hysterectomy				
Abdominal	50	-	-	100
Vaginal	-			-
Time lapse after surgery (year)				
1–2	9	-	-	18
2–3	13			26
3–4	18			36
4–5	10			20
Parity				
1	00	-	-	00
2	2			4
3	18			36
4	12			24
5	18			36
Number of vaginal deliveries				
1	8	-	-	16
2	14			28
3	11			22
4	17			34
Stage of endometrial carcinoma				
Stage-I	58	-	-	69.04
Stage-II	15			17.85
Stage-III	11			13.09
Hormonal replacement				
Yes	43	-	-	51.19
No	41			48.80

Table 3: The pelvic floor distress inventory responses in Group A (n=84)

Patient response	POPDI-6	CRADI-8	UDI-6
Mild (1–33)	17	34	30
Moderate (34–66)	15	12	16
Severe (67–100)	14	11	15
Absent	38	27	23
Percentage of positive response	54.76	51.85	56.61

Table 4: The pelvic floor distress inventory responses in Group B (n=50)

Patient response	POPDI-6	CRADI-8	UDI-6
Mild (1–33)	10	08	11
Moderate (34–66)	09	12	11
Severe (67–100)	14	12	08
Absent	17	18	20
Mean score	66	64	60

correlated with quality of life measures, the association is typically observed in women with more severe symptoms.^[22] In this study there was no correlation between prevalence

of PFDs and a higher endometrial cancer stage (Table 1). The present study though an attempt to identify the risk factors and prevalence of pelvic floor diseases in post Hysterectomy women compared to the prevalence in general population obtained from the literature has some limitations. Firstly the sample size is small. The pre-operative data was lacking which was because of the practice patterns at our tertiary referral institution. Patients with stage-I endometrial carcinoma were sent back to their family physicians for follow up hence a larger could not be undertaken. A larger population could undergo multivariate analysis to determine major risk factors for PFDs in postoperative women who have undergone hysterectomy for endometrial cancer. Similarly advanced stages of carcinoma patients were more likely to end up with follow up at the radiotherapist or oncologist.

CONCLUSIONS

Prevalence of PFD is higher in our study of post hysterectomy women undergoing for both benign and

malignant indications. The degree of symptoms most commonly was mild but the patients should be enquired about these symptoms that are possible. There was more than one organ system of pelvic floor that was involved. Early screening of this high-risk population in the postoperative period may increase identification and improve patient quality of life.

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