

**Evaluation of Preoperative and Postoperative Endometrial/Uterine Histopathology Results in Patients With Uterine Prolapse****Uterin Prolapsusu Olan Hastalarda Preoperatif ve Postoperatif Endometriyal / Uterin Histopatoloji Sonuçlarının Değerlendirilmesi**<sup>1</sup> Sema Baki YILDIRIM<sup>1</sup> Özlem KOŞAR CAN<sup>1</sup> Burcu Yılmaz HANEĞE<sup>1</sup> Vehbi Yavuz TOKGÖZ orcid.org/0000-0001-5321-0739 orcid.org/0000-0001-7101-4838 orcid.org/0000-0003-2322-1255 orcid.org/0000-0002-4113-3850<sup>1</sup> Department of Obstetrics and Gynecology, Giresun Research and Training Hospital, Giresun University, Giresun, Turkey<sup>2</sup> Department of Obstetrics and Gynecology, Pamukkale University, Faculty of Medicine, Kınıklı, Denizli, Turkey<sup>3</sup> Department of Obstetrics and Gynecology, Koç University, Faculty of Medicine, İstanbul, Turkey<sup>4</sup> Department of Obstetrics and Gynecology, Eskişehir Osmangazi University, Faculty of Medicine, Eskişehir, Turkey**ÖZ**

**Amaç:** Bu çalışmanın amacı, preoperatif ve postoperatif endometrial histopatolojik bulguları karşılaştırmak ve endometrial kalınlığı 5 mm'nin altında olan ve POP için vajinal histerektomi yapılan asemptomatik kadınlarda beklenmeyen maligniteleri tespit etmektir.

**Gereç ve Yöntemler:** Bu retrospektif kesitsel çalışmaya Ocak 2010 - Aralık 2016 arasında toplam kırk sekiz kadın hasta dahil edildi. Tüm hastalara ameliyat öncesi Pap Smear ve endometrial biyopsi yapıldı. Ayrıca tüm hastaların endometrial duvar kalınlığı preoperatif olarak ultrasonografi ile değerlendirildi. Pelvik organ prolapsusu nedeniyle opere edilen 48 vajinal histerektomi hastasının histopatolojik verileri analiz edildi.

**Bulgular:** Preoperatif endometrial biyopsi sonuçları sırasıyla % 70.8 ve % 29.2 oranında atrofik endometriyum ve proliferatif endometriyum olarak gözlemlendi. Postoperatif histopatolojik sonuçlar sırasıyla % 60,4, % 14,6 ve % 25 oranlarında endometrial kistik atrofi, proliferatif endometriyum ve endometrial polip olarak bulundu. Ayrıca, histerektomi sonrası sırasıyla % 37,5 ve % 16,7 oranında leiomyom ve adenomyoz saptandı.

**Sonuç:** Sonuçlarımız, endometrial örneklemenin endometrial kalınlığın 5 mm'den az olması durumunda asemptomatik uterovajinal prolapsus hastaları için öncelikle gerekli olmadığını gösterdi. Bu şartlara sahip hastalarda, ameliyat öncesi endometrial kalınlığın transvajinal ultrason ile değerlendirilmesi yeterli olacağı sonucuna varılmıştır.

**Anahtar Kelimeler:** Pelvik organ prolapsusu, vajinal histerektomi, endometrial kalınlık, endometrial biyopsi

**ABSTRACT**

**Aim:** The aim of the study was to compare the preoperative and postoperative endometrial histopathologic findings and detect the unexpected malignancies among the asymptomatic women with endometrial thickness below 5 mm, who underwent vaginal hysterectomy for POP.

**Methods:** A total of forty-eight female patients between January 2010 and December 2016 were included in this retrospective cross-sectional study. Pap Smear and endometrial biopsy were performed to all patients before the surgery. Also, the endometrial wall thickness of all patients was preoperatively evaluated by ultrasonography preoperatively. The histopathological data of 48 vaginal hysterectomy patients operated for pelvic organ prolapse were analyzed.

**Results:** The preoperative endometrial biopsy results were observed as atrophic endometrium and proliferative endometrium in 70.8% and 29.2% rates, respectively. The postoperative histopathologic results were found as endometrial cystic atrophy, proliferative endometrium and endometrial polyp in 60.4%, 14% and 25% rates, respectively. In addition, leiomyoma and adenomyosis were determined after hysterectomy in 37.5% and 16.7%, respectively.

**Conclusion:** Our results showed that endometrial sampling is not primarily necessary for asymptomatic uterovaginal prolapse patients if endometrial thickness is less than 5mm. It has been concluded that preoperative evaluation of endometrial thickness by transvaginal ultrasound would be sufficient in patients with in these conditions.

**Keywords:** Pelvic organ prolapse, vaginal hysterectomy, endometrial thick-

**INTRODUCTION**

Pelvic organ prolapse (POP) is a common health problem affecting the life quality and daily life in 50% of women over age 50 (1,2). POP is the descending of pelvic organs (the uterus, bladder, rectum and the urethra) from their normal position to lower vagina (3). Risk factors of POP are parity, smoking, race, collagen tissue disease and history of hysterectomy, respectively (4). Vaginal hysterectomy is the most common surgical procedure

performed for POP (5,6). About 6 to 20% of women up to 80 years undergo a surgical procedure for this reason and recurrence encounter in 30% of them (7). The aim of the study was to compare the preoperative and postoperative endometrial histopathologic findings and detect the unexpected malignancies among the asymptomatic women with endometrial thickness below 5 mm, who underwent vaginal hysterectomy for POP.

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## MATERIAL AND METHODS

This retrospective cross-sectional study was conducted by analysis of existing vaginal hysterectomy data which belong to asymptomatic postmenopausal patients between January 2010 and December 2016.

Grading of POP was defined according to classification of the International Continence Society (ICS) which published in 1996. Pap smear and endometrial biopsy procedures were applied to all of the patients. Transvaginal sonography examination was used to assess the size of the uterus and endometrial thickness. Also, adnexal regions were evaluated for any possible pelvic mass. Endometrial thickness was measured on a longitudinal axis, double layer endometrial line measured where it is the thickest.

A total of forty-eight postmenopausal patients with an endometrial thickness of <5mm were included in the study. Pipelle endometrial sampling for histopathological evaluation was applied to all of the patients. Samples which were found "insufficient" for pathologic diagnosis were considered as atrophic endometrium in this study. POP patients who had endometrial cancer risk factors such as obesity, diabetes, hypertension, hormone replacement treatment, tamoxifen treatment were excluded from the study. At least 12 months of amenorrhea was accepted as menopause. Vaginal hysterectomy was performed surgically for the treatment of patients. Specimens of patients were sent to the pathology clinic and preserved in formaldehyde solution for histopathological evaluation.

Statistical analysis of data was evaluated with using SPSS (Statistical Package for the Social Sciences) versions of 17. Chi-square test was used to determine the differences between pathological findings A P value of <0.05 was considered statistically significant in this study.

## RESULTS

Demographical data of the postmenopausal patients is shown in Table 1.

**Table 1.** Demographic data of POP patients (Mean  $\pm$  Standard Deviation)

	Postmenopausal (n=48)
Age	65.46 $\pm$ 10.4
Parity	3.58 $\pm$ 0.98

A total forty-eight patients who met the study criterias between the ages of 53-86 were included in the study. The mean age of the patients was 65.46 $\pm$ 10.4. Also, the mean number of parity was 3.58 $\pm$ 0.98. In this study, a total of 42 POP patients who had endometrial cancer risk factors such as obesity, diabetes, hypertension, hormone replacement treatment, tamoxifen treatment were excluded from the study.

In this study, all patients of the pap smear results were found normal. Histopathologic data of the patients in the preoperative and postoperative periods are shown in Table 2.

**Table 2.** Preoperative endometrial biopsy and postoperative pathology results in POP patients

	Postmenopausal (n=48)
	n (%)
<b>Endometrial Biopsy Results</b>	
Atrophic Endometrium	34 (70.8)
Proliferative Endometrium	14 (29.2)
<b>Postoperative Endometrial Pathology</b>	
<b>Result</b>	
Endometrial Cystic Atrophy	29 (60.4)
Proliferative Endometrium	7 (14.6)
Endometrial Polyp	12 (25.0)

The preoperative endometrial biopsy results were observed as atrophic endometrium and proliferative endometrium in 70.8% and 29.2% rates, respectively. The postoperative histopathologic results were found as endometrial cystic atrophy, proliferative endometrium and endometrial polyp in 60.4%, 14.6% and 25% rates, respectively. In addition, the patients reported as atrophic endometrium in the preoperative evaluation (70.8%) were found as endometrial cystic atrophy and proliferative endometrium in 60.4% and 10.4% rates, respectively. In addition, leiomyoma and adenomyosis were determined after hysterectomy in 37.5% and 16.7%, respectively.

## DISCUSSION

In this study, the preoperative endometrial biopsy and postoperative endometrial pathologies of POP patients who underwent vaginal hysterectomy with having less than 5mm measurement of endometrial thickness on ultrasound and no other uterine pathologies were compared. Increment on the incidence and severity of POP and occurrence of atrophic endometrium depending on estrogen deficiency are expected in advanced ages (8, 9). However, it is interesting that pathologies such as endometrial hyperplasia, endometrial polyp, adenomyosis which are positively correlated with high estrogen levels can be found in asymptomatic POP patients (10).

In this study, it was observed that the majority of preoperative endometrial biopsy results were found to be as atrophic endometrium in 70.8% rate. Also, the majority of postoperative endometrial histopathology results as an expected were found to be endometrial cystic atrophy in 60.4% rate. The preoperative and postoperative periods of endometrial pathological findings were found statistically significant (p:0.012).

It is possible to have a proliferative endometrium in asymptomatic postmenopausal women (9). The endometrial pathological results were found as proliferative endometrium in 29.2% and 14.6% rates for the preoperative and postoperative periods, respectively. Postoperative endometrial polyp results (25%) were considered to be deriving from preoperative proliferative endometrium. Difference between both of these were found statistically significant (p:0.012).

In the literature, some studies have showed that the incidence of unexpected endometrial malignancy and premalign lesion in asymptomatic women who underwent hysterectomy due to POP were about 0.7-2.6% (11-13). In a retrospective study of 517 patients conducted by Renganathan et al., unexpected endometrial carcinoma found in 0.8% rates. Also, they concluded that all patients should be assessed by TVS preoperatively and evaluated by simple endometrial sampling when endometrium thickness higher than 5mm (11). In another retrospective study conducted by Frick et al., it was reported that asymptomatic postmenopausal women could have endometrial carcinoma or hyperplasia in 0.2% rate. Additionally, they concluded that preoperative evaluation and TVS could be used to reduce this possibility (12).

Although many researchers accept the cut-off value as 3-10 mm for endometrial thickness in asymptomatic postmenopausal women, Smit-Bindman et al. recommended endometrial biopsy for patients  $\geq$ 11mm (14,15). There is strong scientific evidence which supports the transvaginal sonography is capable of detecting low and high-risk patients for endometrial cancer when >5mm endometrial thickness is accepted to be the cut-off value for pathologic endometrium (16-18). In a study with 80 patients conducted by Elbiaa et al., patients with abnormal endometrial biopsy results and >8mm endometrial thickness were excluded and there was no premalignant lesion in postoperative histopathology. They concluded that this is due to their exclusion criteria and thickened endometrium should be assessed by TVS and thereby indicated for endometrial biopsy (19). On the other hand, although Bohoussou et al. could not show the advantage of endometrial sampling in POP patients, they suggested preoperative ultrasonography for endometrial thickness evaluation (20). In a study conducted by Kim et al., it was reported that TVS is a useful method to exclude endometrial malignancy with asymptomatic patients and 5mm of endometrial thickness can be accepted as the cut-off value for biopsy indications (21).

In this study, ovaries of all the patients were evaluated by TVS. Ovary morphologies were observed normally in USG. There were 16 (33.3%) patients whose ovaries could be removed surgically and there were no abnormal histopathological findings concerning the ovaries for these 16 patients. Patients with endometrial thickness of <5mm (TVS) were included in this study. Premalignant or malignant lesions in preoperative and postoperative histopathological evaluations were not detected. Although it is not always possible to detect premalignant lesions by simple conventional methods in asymptomatic women with uterovaginal prolapse. In some studies, histopathological evaluation is not recommended for patients whose endometrial thickness <5 mm measured by TVS.

As a result of this study, it is thought that endometrial sampling is not primarily necessary for patients with a <5mm endometrial thickness and it would be sufficient to preoperatively assess the endometrial thickness by TVS. However, there is no full consensus for endometrial evaluation before surgery as to whether it should be done by ultrasonography or endometrial biopsy. The small sample size as the most important limitation of the study. Therefore, further studies with large series are needed for clarifying of this issue.

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