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# Incidental gynecologic cancers who underwent surgery for pelvic organ prolapse

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## ABSTRACT

**Aims:** Despite symptom inquiry and preoperative sampling are performed for endometrial, cervix and ovarian pathologies in the preoperative evaluation, it is not clear whether cancer will be detected in the surgical specimen of an asymptomatic patient for pelvic organ prolapse surgery. In our study, we aimed to investigate the incidental cancer rates in patients who underwent vaginal or abdominal surgery due to pelvic organ prolapse.

**Methods:** In this retrospective study, all patients who underwent surgery for pelvic organ prolapse at SBÜ İstanbul Training and Research Hospital between 2019 and 2023 were included in the study. Patients who had diagnosis of cancer were preoperatively excluded from the study. Preoperative transvaginal ultrasound was made for all patients using sonography by 5 MHz probe, (Voluson E8, GE Healthcare, Milwaukee, WI) or MRI. Accompanying endometrial, myometrial and adnexial pathologies were recorded. Routine endometrial thickness at preoperative evaluation was saved. Type of the surgery for pelvic organ prolapse, complications and final pathology reports were recorded.

**Results:** 107 patients had surgery due to pelvic organ prolapse between 2019 and 2023. Mean endometrial thickness before surgery was 4.72±4.27 mm. After surgery, all of the hysterectomy±salpingooferectomy specimen sent to pathology. In our study there was a statistical difference between preoperative and postoperative diagnosis of endometrial polyps as p: 0.0001. Due to the fact that Pipelle is more effective in postmenopausal patients, the false-negative rate of office endometrial sampling, and that the main evaluation should be endometrial sampling accompanied by hysteroscopy. We did not evaluate endometrium by hysteroscopy preoperatively, so endometrial polyps can be found incidentally. In our study there was no incidental diagnosis of cancer.

**Conclusion:** Despite the risk of incidental cancer detection is different and controversial in the literature, it was ultimately decided to send the hysterectomy material for routine pathological examination.

**Keywords:** Cervical neoplasia, endometrial cancer, hysterectomy, pelvic organ prolapse, preinvasive lesion

## INTRODUCTION

Pelvic organ prolapse (POP), the herniation of the pelvic organs to or beyond the vaginal walls, is a common condition. Women with prolapse experience symptoms of mass, gas discharge, urinary incontinence symptoms that impact daily activities, sexual function, and exercise. The presence of POP can have a detrimental impact on body image and sexuality.[1]

Treatment of POP requires significant health care resources; the annual cost of ambulatory care of pelvic floor disorders in the United States from 2005 to 2006 was almost $300 million[2] and surgical repair of prolapse is increasing day by day due to the aging.[3,4]

However, in addition to pelvic organ prolapse, which increases with age, there are also gynecological cancers that increase with age.[5]

Although symptom inquiry and preoperative sampling are performed for endometrial, cervix and ovarian pathologies in the preoperative evaluation, it is not clear whether cancer will be detected in the surgical specimen of an asymptomatic patient.

The median age at uterine cancer diagnosis is 63 years, with approximately 79% of all uterine cancers being diagnosed in women aged 55 years and older.[6] Further, a study[7] showed that the risk of uterine cancer increases >8-fold between the ages of 45 and 75 years.

20% of cervical cancer seems after 65 years of age and also ovarian cancer incidence increases between 35-64 age.[8]

In a meta-analysis, 1 out of 77 and 250 women had incidentally diagnosis of cervical and endometrium cancer

after POP surgery respectively.[9] It was concluded that this is due to the fact that Pipelle is more effective in postmenopausal patients, the false-negative rate of office endometrial sampling, and that the main evaluation should be endometrial sampling accompanied by hysteroscopy. Although the risk of incidental cancer detection is different and controversial in the literature, it was ultimately decided to send the hysterectomy material for routine pathological examination.[9]

In our study, we aimed to investigate the incidental cancer rates in patients who underwent vaginal or abdominal surgery due to pelvic organ prolapse.

## METHODS

Approval for this study was obtained from SBÜ İstanbul Training and Research Hospital Clinical Researches Ethics Committee (Date 13.10.2023, Decision No. 277). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

In this retrospective study, all patients who underwent surgery for pelvic organ prolapse at SBÜ İstanbul Training and Research Hospital between 2019 and 2023 were included in the study. Patients who had diagnosis of cancer were preoperatively excluded from the study. Patients's age, parity, number of vaginal births, having symptoms of pelvic organ prolapse as palpating mass from vulvar region, urinary incontinence, fecal incontinence were recorded. Medical illness, smoking and menopausal status, family history of gynecological cancers were also recorded. Preoperative transvaginal ultrasound were made for all patients using sonography by 5 MHz probe, (Voluson E8, GE Healthcare, Milwaukee, WI) or MRI. Accompanying endometrial, myometrial and adnexial pathologies were recorded. Routine endometrial thickness at preoperative evaluation was saved. Type of the surgery for pelvic organ prolapse, complications and final pathology reports were recorded.

The Statistical Package for Social Sciences (IBM SPSS Statistics for Windows, Version 22.0, IBM Corp., Armonk, NY, USA) was used for statistical analyses. The normality of distribution was assessed using the Kolmogorov-Smirnov test. Mean or median values were used to describe normally distributed data, while categorical data were presented as percentages. The Chi-square and Fisher exact tests were used for categorical data, and a t-test was used to determine two independent means. The significance level for all tests was set at $p<0.05$.

## RESULTS

107 patients had surgery due to pelvic organ prolapse between between 2019 and 2023. 98.1% of patients were symptomatic; 64.5% had palpating mass, vaginal bleeding in 8.4%, urinary incontinence in 25.2% of patients. None of the patients had neither fecal incontinence nor difficulty in coitus. Demographic characteristics were mentioned in Table 1.

None of the patients had history of endometrium, ovarian, cervical cancers. One patient (0.9%) and one patient (0.9%) had history of vaginal and breast cancer respectively. 2.8% of patients had family history of cancers as; 0.9% of endometrial and 2.9% breast.

**Table 1. Demographic data of patients in this study**

| | Number (n) | Percentage (%) | Total number (n) |
|---|---|---|---|
| Hypertension | 35 | 32.7 | 107 |
| Diabetes | 19 | 17.8 | 107 |
| COPD* | 4 | 3.7 | 107 |
| Chronic renal insufficiency | 0 | 0 | 107 |
| Smoking | 9 | 8.4 | 107 |
| Menopausal patient | 86 | 80.4 | 107 |
| **Mean+SD (range)** | | | |
| Age (years) | 59.23±9.49 | | |
| Parity | 3.65±1.79 | | |
| Number of vaginal births | 3.56±1.79 | | |
| Menopausal age | 48.36±5.26 | | |

*COPD: Chronic obstructive pulmonary disease, SD: Standard deviation

In addition, during preoperative evaluation, 71% of patients had endometrial sampling; 68.2% of total patients' pathology report was normal. 105 out of 107 patients had hysterectomy via vaginal, total abdominal and total laparoscopic routes. Operation types were showed in Figure.

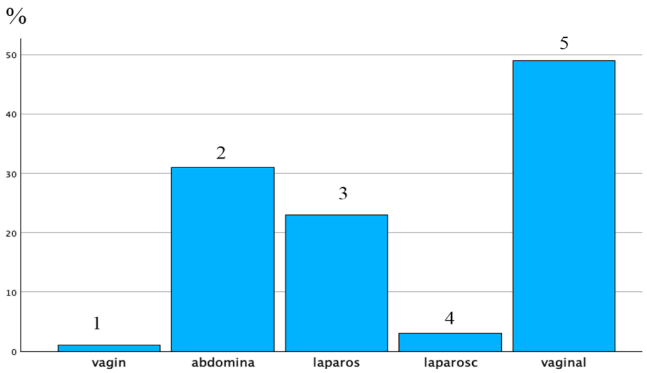


**Figure.** Operation types in pelvic organ prolapse. 1. Vaginal hysterectomy, 2. Total abdominal hysterectomy + bilateral salpingooferectomy +uterosacral ligament plication, colporaphy posterior, 3. Total laparoscopic hysterectomy + bilateral salpingooferectomy, uterosacral ligament plication, colporaphy posterior, 4. Laparoscopic sacrocolpopexy, 5. Vaginal hysterectomy + bilateral salpingooferectomy, McCall culdoplasty, colporaphy posterior

Mean endometrial thickness before surgery was 4.72±4.27 mm. After surgery, all of the hysterectomy ±salpingooferectomy specimen sent to pathology. Comparing all preoperative and postoperative all pathology reports were mentioned in Table 2. In our study there was no incidental diagnosis of cancer. In our study preinvasive cervical lesions were found to be 4.7%. In addition, in our country owing to our cervical cancer screening program made by Ministry of Health, our occult cervical cancer rate is zero, and there was no statistical difference between preoperative and postoperative cervical pathology reports (p: 0.26). In our study there was a statistical difference between preoperative and postoperative diagnosis of endometrial polyps as p: 0.0001.

## DISCUSSION

As aging, the number of patients with pelvic organ prolapse will increase, as will the number of those undergoing surgery. In addition, we know that the risk of cancer increases with age. So, if the patient has cancer without realizing it, can we

**Table 2. Preoperative and postoperative pathology reports of organs**

| | Preoperative (%) | Postoperative (%) | p |
|---|---|---|---|
| **Cervix** | | | |
| Normal pathology | 97.2 | 95.3 | 0.26 |
| Preinvazive lesion | 2.8 | 4.7 | |
| Cancer | 0 | 0 | |
| **Endometrium** | | | |
| Normal pathology | 97.2 | 74.8 | |
| Endometial polyp | 2.8 | 22.4 | 0.001* |
| Endometrial hyperplasia | 0 | 2.8 | |
| Cancer | 0 | 0 | |

Due to not having an screening test for ovarian mass, it was not included. * p is significant if <0.05

miss it during surgery? We evaluated this in our study and investigated the frequency of incidental cancer diagnosis in patients with pelvic organ prolapse.

In our study there was no incidental diagnosis of cancer. In a meta-analysis, the occurrence of occult (incidental) cancer diagnosis was mentioned as 1/77 for cervical, 1/250 for endometrial cancer.[9] In this meta-analysis and literature, the studies had heterogenicity. Studies with low populations had negative results for cancer as our study. Our study had included 107 patients. In this meta-analysis it was thought and decided that as screening programs for cervical cancer and human papillomavirus vaccine the incidence will be lower.

In Elbia et al. study,[10] the prevalance of preinvasive lesions as CIN for cervical cancers found to be highest in the literature as 33.75%. Despite this data in this country (Kuwait) did not have national cervical cancer screening program, so this data cannot be generalized. In our study preinvasive cervical lesions were found to be 4.7%. In addition, in our country owing to our cervical cancer screening program made by Ministry of Health, our occult cervical cancer rate is zero, and there was no statistical difference between preoperative and postoperative cervical pathology reports (p: 0.26).

Knowing that uterine cancer peaks after the age of 55, the reason we did not catch it since it was the average age of 59.23±9.49 in our study can be explained by this. Since the average number of births in our patients was high as 3.56±1.79, hysterectomy was performed due to pelvic organ prolapse before the age of cancer increased.

In a meta-analysis, correlation between endometrial thickness and endometrial cancer and optimizing the threshold for endometrial thickness was not found due to the heterogeneity of studies.[11] In our study, there was no statistical relationship between menopausal or pre-menopausal endometrial thickness and endometrial cancer.

In our study there was a statistical difference between preoperative and postoperative diagnosis of endometrial polyps as p: 0.0001. Since Pipelle is more effective in postmenopausal patients, the false-negative rate of office endometrial sampling, and that the main evaluation should be endometrial sampling accompanied by hysteroscopy. We did not evaluate endometrium by hysteroscopy preoperatively, so endometrial polyps can be found incidentally.

In the literature, endometrial polyps with obesity are risk factors for endometrial cancer.[12,13] Similarly, hypertension was examined as an independent risk factor of malignancy within endometrial polyps.[14] The correlation between diabetes mellitus and malignancy within endometrial polyps has been explored by several authors.[15] Although incidental cancer was not found, risky lesions like endometrial polyps were caught and prevented.

### Limitations

A single center, small number of patients and especially younger for the mean age of gynecologic malignancies, it is not enough to use the data to the general.

## CONCLUSION

Although the risk of incidental cancer detection is different and controversial in the literature, it was ultimately decided to send the hysterectomy material for routine pathological examination.

## ETHICAL DECLARATIONS

### Ethics Committee Approval

The study was carried out with the permission of SBÜ İstanbul Training and Research Hospital Clinical Researches Ethics Committee (Date 13.10.2023, Decision No. 277).

### Informed Consent

Because the study was designed retrospectively, no written informed consent form was obtained from patients.

### Referee Evaluation Process

Externally peer-reviewed.

### Conflict of Interest Statement

The authors have no conflicts of interest to declare.

### Financial Disclosure

The authors declared that this study has received no financial support.

### Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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