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Malignancy Risks and Surgical Management of Asymptomatic Endometrial Polyps

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ABSTRACT

Background: *Endometrial polyps are frequently detected during routine gynecologic imaging, yet their true malignant potential—particularly in asymptomatic women—remains a central concern in oncologic risk assessment. While most polyps are benign, the wide variability in reported malignancy rates has led to aggressive surgical management practices. This study evaluates the oncologic risk profile of asymptomatic endometrial polyps and examines whether current surgical intervention patterns align with actual malignancy risk.*

Methods: *A retrospective cohort study was conducted on 172 women diagnosed with endometrial polyps at a tertiary medical center between 2011 and 2018. Clinical presentation, hysteroscopic findings, histopathology, and perioperative complications were analyzed. Associations between malignancy and established oncologic risk factors—including age, menopausal status, breast cancer history, and Tamoxifen exposure—were assessed using Student's t test and Pearson's chi squared test.*

Results: *Of 172 polyps removed, 163 (94.8%) were benign and 8 (4.7%) were malignant. No malignancies were identified among asymptomatic women, whereas symptomatic women with vaginal bleeding demonstrated an 8.8% malignancy rate (p=0.007). Asymptomatic patients were more likely to have a history of breast cancer (p=0.04) and Tamoxifen use (p=0.048), yet these factors did not translate into increased malignancy in the absence of symptoms. Surgical management carried measurable risks, including uterine perforation (1.75%), hospitalization (2.33%), and transfusion (0.6%).*

Conclusion: *This study demonstrates that asymptomatic endometrial polyps carry negligible malignant potential, even among women with traditional oncologic risk factors such as breast cancer history or Tamoxifen exposure. In contrast, hysteroscopic removal introduces procedural risks that exceed the observed cancer risk in this population. These findings underscore the need for oncology aligned, risk stratified management, supporting conservative surveillance rather than routine surgical intervention for incidentally detected polyps. Symptomatic presentation—particularly abnormal bleeding—remains the most clinically meaningful predictor of malignancy.*

Keywords

Endometrial polyps, Endometrial neoplasia, Malignancy risk, Asymptomatic women, Abnormal uterine bleeding Hysteroscopy.

Introduction

Endometrial polyps (EPs) are localized intrauterine overgrowths originating from the endometrial lining, composed of varying amounts of glands, stroma, and blood vessels [1,2]. These projections result from hyperplastic overgrowths of the endometrial glands and stroma around a vascular core and can be either sessile or pedunculated [3]. They are among the most common intrauterine findings, affecting up to 34.9% of women during their lifetime [3]. Clinical symptoms primarily include irregular vaginal bleeding, with polyps identified in up to 40% of women undergoing evaluation for abnormal bleeding [4]. However, they are also frequently found in 1% to 12% of asymptomatic women during routine gynecological or infertility evaluations [4,5].

While the majority of polyps are benign, the reported incidence of malignancy ranges from 0% to 12.9%, depending on patient risk factors such as age and menopausal status [3,5].

Hysteroscopy is widely considered the "Gold Standard" for diagnosis and treatment, as it allows for direct visualization and concurrent surgical removal via polypectomy [3,4,6]. Although generally considered a simple and safe procedure, it is invasive and carries inherent risks, including uterine perforation, significant blood loss, infection, and anesthesia-related complications [5,7]. In Israel, the routine application of transvaginal ultrasound (TVUS) as part of standard gynecological examinations has led to a high detection rate of asymptomatic polyps, resulting in many women being referred for potentially unnecessary surgical interventions.

Materials and Methods

This is a retrospective study based on clinical data from 172 patients diagnosed with endometrial polyps between 2011 and 2018 at the Rambam Medical Center women's department, affiliated to the Ruth and Bruce Rappaport Faculty of Medicine of Technion – Israel Institute of Technology. The study included women over the age of 18 with no prior history of uterine cancer who presented with sonographic findings of an endometrial polyp. Data points included symptomatic status (specifically vaginal bleeding), hysteroscopic findings, histopathology (benign vs. malignant), and surgical complications such as perforation, hospitalization, or the need for blood transfusions. Factors such as age, menopause, history of breast cancer, and the use of Tamoxifen or Hormone Replacement Therapy (HRT) were evaluated.

Statistical Analysis

Continuous variables were analyzed using Student's t-test, and non-continuous variables were assessed using Pearson's chi-squared test.

Results

Among the 172 women studied, 163 had benign findings, 8 were diagnosed with malignancy, and one case had insufficient tissue for a pathological diagnosis.

Malignancy and Symptoms

There was a statistically significant correlation between the presence of vaginal bleeding and malignancy ($p=0.007$). Notably, no malignant findings were discovered in the asymptomatic group. In contrast, the symptomatic group (those with bleeding) had a malignancy rate of 8.8%.

Asymptomatic Subgroup

Patients in the asymptomatic group were significantly more likely to have a history of breast cancer ($p=0.04$) and were more frequently treated with Tamoxifen ($p=0.048$).

Complications

Surgical complications across the entire cohort included 3 uterine perforations (1.75%), 4 hospitalizations due to perforation or blood loss (2.33%), and 1 blood transfusion (0.6%). There was no statistical difference in complication rates between symptomatic and asymptomatic patients.

Discussion

The incidental finding of asymptomatic polyps via transvaginal ultrasound often leads to invasive procedures [6]. Our findings demonstrate that in asymptomatic women, the risk of malignancy is extremely low—zero in our cohort—suggesting that the risks associated with hysteroscopic surgery may outweigh the potential benefit of the procedure. These results align with literature identifying vaginal bleeding and advanced age as the strongest predictors of malignancy in polyps [5,8,9]. Studies on cell proliferation in postmenopausal polyps also indicate that while a potential for malignant transformation exists, it is more closely linked to symptomatic presentation [10].

The high prevalence of Tamoxifen users in our asymptomatic group suggests an over-reliance on sonographic monitoring for these patients. This practice continues despite guidelines which advise against routine ultrasound screening for asymptomatic women on Tamoxifen, given the high frequency of non-malignant endometrial thickening associated with the drug [5].

Conclusion

For women where a polyp is discovered incidentally via ultrasound but no symptoms are present, conservative follow-up may be appropriate [11]. This approach avoids the surgical risks of hysteroscopy, which are statistically more likely than a finding of malignancy in the asymptomatic population.

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