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Research Article

Evaluation of the Malignant Risk of Endometrial Polyps

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Abstract

Background: Endometrial polyps are localised, hyperplastic growths of stroma and endometrial glands that protrude from the endometrium's surface. Objective: To evaluate the incidence of malignancy in endometrial polyps, in patients undergoing hysteroscopic polypectomy.

Study design: Over the course of five years, from May 2020 to March 2025, a prospective study was carried out at the Duhok Obstetrics and Gynaecology Teaching Hospital in Iraqi Kurdistan.The study included 130 patients with endometrial polyps, hysterscopic polypectomy was carried out, specimens sent to histopathology. Histopathological diagnosis made a distinction between Non-polypoid lesions that were misdiagnosed as polyps and endometrial polyps, which were classified as group A benign lesions and group B precancerous , and neoplastic lesions,

Results: Women's mean age was 46.12 ± 8.0,women's mean body mass index (BMI) was 28.07 ± 5.02.The mean parity was 4.75 ± 2.35. The majority of them (55.3%) had history of one miscarriage. Menopause was present in 76 cases (58.4%).%) . 52 cases (40%) had benign endometrial polyps.Five patients (3.8%) had endometrial polyps with atypical complex hyperplasia, which are precancerous lesions. Neoplastic lesions, which are endometrial polyps with endometrial malignancy were present in two patients (1.5). Women in group B were statistically significantly more likely to have endometrial polyps larger than 1.5 cm, be older, be menopausal, and have a history of chronic hypertension. There was no statistically significant impact from any of the other risk factors

Conclusion: Patients with endometrial polyps should be managed individually, taking into account the patient's age, menopausal status, and the size of the polyp. In menopause all polyps should be removed.

Keywords: Endometrial polyp; Menopause; Hysteroscopy; Malignancy

Introduction

One of the most frequent causes of irregular and abnormal uterine bleeding(AUB) in both premenopausal and postmenopausal women is endometrial polyps, which are hyperplastic overgrowths of endometrial glands and stroma that protrude from the endometrium's surface [1-3]. They might not have any symptoms either. While the vast majority of endometrial polyps are benign, some women develop malignancy [2].

Postmenopausal women and those who present with bleeding are more likely to have endometrial polyps that are malignant; polyps larger than 1.5 cm in diameter have also been linked to premalignant or malignant histology [4,5]. Ten to twenty-four percent of women having a hysterectomy or endometrial biopsy have endometrial polyps [6].

In premenopausal women with a surgical rationale for operative hysteroscopy, transvaginal ultrasonography alone is usually adequate, while recommend sonohysterography (saline infusion sonogram) or diagnostic hysteroscopy for postmenopausal women with thicker endometrial stripes and premenopausal women who have an unclear ultrasound result or who are candidates for expectant care. According to a review, there was no discernible advantage to three-dimensional SIS over two-dimensional SIS [6,7].

A histologic diagnosis of an endometrial polyp is made by analysing the specimen after it has been removed. Malignancy can also be ruled out by histologic examination. In postmenopausal women with endometrial thickening and bleeding, a negative endometrial biopsy revealed that 3% of women had endometrial hyperplasia with atypia in polyps and 3% had undetected endometrial cancer [8].

Premenopausal women who have symptomatic polyps should have them removed. Women who have risk factors for endometrial hyperplasia or cancer should also have asymptomatic polyps removed. For women who are infertile or who have many, prolapsed, or larger than 1.5 cm polyps, polypectomy is also a possible choice. Recommend the excision of all endometrial polyps in postmenopausal women. Rarely, endometrial polyps return after being removed; in these situations, caution should be used to remove the polyps entirely during a repeat polypectomy treatment. Regarding the treatment of recurring endometrial polyps, there is no information available. Given its demonstrated effectiveness in women undergoing tamoxifen treatment, one choice is an levonorgestrel-releasing intrauterine device. Since blind curettage may overlook tiny polyps and other structural defects, hysteroscopic visualisation of the polyp is the recommended method [9-12].

Materials and Methods

Over the course of five years, from May 2020 to March 2025, a prospective study involving human populations was carried out at the Duhok Obstetrics and Gynaecology Teaching Hospital in Iraqi Kurdistan.The Committee for Scientific Research of the Duhok Obstetrics and Gynaecology Teaching Hospital gave its approval to this study. Informed consent has been provided by a patient.

The study included 130 patients who came to the gynaecological clinic with a variety of gynaecological issues, including postmenopausal bleeding, abnormal uterine bleeding, and asymptomatic women whose endometrial polyp was unintentionally discovered by ultrasound. Following evaluation, endometrial polyps were found in the women. Both premenopausal and postmenopausal women participated in the study. If a woman experienced amenorrhoea for at least 12 months after the age of 45 years, she was considered postmenopausal. Women were excluded from the study because there was not enough material for histological diagnosis or because the histological evaluation did not confirm the diagnosis.

Age, body mass index (BMI) (kg/m2), parity, miscarriage, clinical presentation, menopausal status, co-morbidities, and polyp size > 1.5 cm, were among the demographic characteristics of the women from whom the data was gathered. Both the histopathological assessment of the

A real-time ultrasonography with a 5–9 MHz trans-vaginal probe was used to evaluate the endometrium in all of the study participants. A Storz Endoscope (Germany) was used for hysteroscopy, and endometrial polypectomy was carried out while the patients were under spinal anaesthesia. Specimens were placed in 10% formaldehyde to examine and interpret the specimens histologically.

Histopathological diagnosis made a distinction between Non-polypoid lesions that were misdiagnosed as polyps (myoma, atrophic, proliferative, or secretary endometrium) and endometrial polyps, which were classified as group A benign lesions (benign endometrial polyps and endometrial polyps with simple and many complex hyperplasia without atypia), group B precancerous lesions, and neoplastic lesions, endometrial polyps with atypical complex hyperplasia are examples of precancerous lesions, while endometrial polyps and invasive endometrial carcinoma are examples of neoplastic lesions.

Statistical analysis

The statistical software program SPSS was used to collect and analyse the data.In descriptive statistics, normal variables were expressed as numbers and percentages (%), and quantitative variables were expressed as mean ± standard deviation. The Student's t-test was used to determine the mean difference of the quantitative variables. The Chi-square test was used to examine the frequency difference, and a p-value of less than 0.05 was considered statistically significant.

Results

The 130 women who had an endometrial polyp diagnosis between May 2020 and April 2025 were included in the study.

Table 1 provides the baseline characteristics of women who have endometrial polyps. Women's mean age was 46.12 ± 8.0,women's mean body mass index (BMI) was 28.07 ± 5.02.The mean parity was 4.75 ± 2.35.The majority of them (55.3%) had history of one miscarriage. Abnormal uterine bleeding was experienced by 46.9% of women. Menopause was present in 76 cases (58.4%).40 cases (30.7%) involved women with chronic hypertension, and 5 cases (19.2%) involved women with diabetes mellitus(DM) Endometrial polyps larger than 1.5 cm were found in 9 cases (6.9%).No cases found taking hormonal medication or tamoxifine.

Baseline characteristics	Values
Age (years)	46.12 ± 8.0
(kg/m^2) BMI	28.07 ± 5.02
Parity	4.75 ± 2.35
Misscarage 0 1 ≥2	 41(31.5%) 72(55.3%) 17(13%)
Asymtomatic Symptomatic AUB PMB Infertility	29(22.3%) 61(46.9%) 32(24.6%) 8(6.15%)
Menopause status Premenopausal Menopause	(41.5%)54 (%58.4)76
Comorbitites Hypertention Diabetus mellitus	 40(30.7%) (19.2%)5
Polyp > 1.5 cm	9(6.9%)

Table 1: Provides the baseline characteristics of women who have endometrial polyps.

Table 2 displays the histological assessment of the endometrial polyps. 52 cases (40%) had benign endometrial polyps found by hysteroscopy, according to histological data. The endometrial polyp exhibited hyperplasia but no atypia in 31 patients (23.8%). Five patients (3.8%) had endometrial polyps with atypical complex hyperplasia, which are precancerous lesions. Neoplastic lesions, which are endometrial polyps with endometrial malignancy were present in two patients (1.5%), histology of the polyp was of a well differentiated endomeroid adenocarcinoma.The remaining lesions were non polypoid; these included proliferative endometrium in 12 cases (9.2%), atrophic endometrium in 11 cases (8.4%), myoma in 9 cases (6.9%), and secretary endometrium in 8 cases (6.1%).

Histopathologic diagnosis	Values
Non-polypoid lesions Myoma Arophic endometrium Proliferative endometrium Secretory endometrium	 9(6.9%) 11(8.4%) 12(9.2%) 8(6.1%0
Benign lesions Benign endometrial polyps Endometrial polyps with hyperplasias without atypia	 52(40%) 31(23.8%)
precancerous lesions Endometrial polyps with atypical complex hyperplasia	 5(3.8%)
Neoplastic leasions Endometrial polyps with invasive endometrial carcinoma	 2(1.5%)

Table 2: Show the histological assessment of the endometrial polyps.

The clinical risk factors for benign, precancerous, and neoplastic endometrial polyps are given in Table 3.Group A and Group B both had their risk variables examined. Women in group B were statistically significantly more likely to have endometrial polyps larger than 1.5 cm, be older, be menopausal, and have a history of chronic hypertension. There was no statistically significant impact from any of the other risk factors, including parity, BMI, complaints of abnormal uterine bleeding, or diabetes mellitus.

Risk factors	Group A (n = 83)	Group B (N=7)	P value
Age (years)	42.1 ± 1.2	53.5 ± 2.1	< 0.001
(kg/m2) BMI	± 1.0 29.2	30.4	NS
Parity	4.2	5.1	NS
Abnormal uterine bleeding	60(72.2%)	5(71.4%)	NS
Menopause status	4(4.8%)	6(87.7%)	< 0.001
Comorbitite Hypertention DM	20(24%) 10(12%)	6(87.7%) 1(14%)	< 0.001 NS
Polyp > 1.5 cm	4(4.8%)	5(71.4%)	< 0.001

Table 3: Show the clinical risk factors for benign , precancerous and neoplastic endometrial polyps.

Discussion

It has been reported that up to 25% of women in the general population have endometrial polyps, however their potential for malignancy is yet unknown [13-15].

According to reports, postmenopausal and symptomatic patients have a tenfold higher risk of developing premalignant or malignant carcinoma from endometrial polyps than do asymptomatic and premenopausal patients [4,5,16].

It is said that endometrial polyps might develop into cancerous endometrial lesions. People over 65 are more likely to develop serous epithelial endometrial carcinomas, whereas those between the ages of 45 and 65 are more likely to develop endometrioid type endometrial carcinomas. Usually, these polyp-derived lesions are well-differentiated [17].

The polyp's histology in both of the malignant cases in our investigation was that of a well-differentiated endometroid adenocarcinoma. These cases are thought to have an extremely favorable prognosis. However, aggressive uterine neoplasms that were limited to an endometrial polyp were discovered in multiple studies [18-20].

The chance of endometrial polyps developing into malignant and pre-malignant cancer varies depending on the study. Abnormal vaginal bleeding, postmenopausal status, and advanced age are the main risk factors for carcinomatous changes in endometrial polyps [21,22]. According to our study, age , hypertension,larg polyps and postmenopausal women are more likely to acquire malignant polyp, although vaginal bleeding ,DM, parity and BMI did not significantly affect this risk.

Five cases of hyperplasia with atypia and only two cases of malignant polyps were detected in our study. Only 4 polyps (0.8%) were confirmed to be malignant in the longest series, while 16 of 509 polyps (3.1%) showed hyperplasia with atypia [23].

Larger polyps than 1.5 cm in older, postmenopausal women may be linked to cancer, according to several studies [5,24]. Large polyps were also significant in our analysis. These findings are consistent with a recent study that found that endometrial polyps greater than 1 cm had a higher chance of persisting, whereas small polyps can regress [24].

Strengths and limitations

It should be mentioned that there were two restrictions on this study. The sample size was small. The study's second limitation was its failure to examine the hormonal impact on endometrial polyps. One of the study's primary advantages was that it was conducted at a tertiary facility in Duhok City with modern hysterscopy available. .

Conclusions

Patients with endometrial polyps should be managed individually and with great thought, taking into account the patient's age, menopausal status, and the size of the polyp. In menopause all polyps should be removed.

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Data availability

The datasets used and/or analysed during the current study available from the corresponding author on reasonable request.

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Contributions

Nazdar and Amal (manuscript writing/editing, Data analysis, data collection collection., design of the study and revised the manuscript for intellectual content).

Ethics Declarations

The ethical approval of the study protocol was received from the Duhok OBGYN Teaching Hospital Scientific Committee. In compliance with ethical guidelines, involving human populations , Informed Consent was obtained from all patients . All procedures were carried out in accordance with the Helsinki Declaration. patient confidentiality was safeguarded by anonymizing personal data. All required permissions were obtained from relevant institutional authorities before data collection.

Competing Interests

The authors declare no competing interests.

Consent for Publication

'Not applicable' for that section.

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