

**ANORMAL UTERİN KANAMASI OLAN KADINLARDA HİSTEROSKOPIK VE PATOLOJİK BULGULARIN DEĞERLENDİRİLMESİ**

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**ÖZET**

**Amaç:** Anormal uterin kanama (AUK) genellikle iyi huylu patolojilerin belirtisi olmakla birlikte endometriyal hiperplazi veya kanserlerin de en sık görülen semptomu olarak karşımıza çıkabilir. Histeroskopi bu patolojilerin doğrudan görüntülenmesine olanak sağladığından büyük bir teşhis doğruluğuna sahiptir. Çalışmamızda, Anormal uterin kanaması olup histeroskopi ve biyopsi yapılan kadınların histeroskopik bulgularını ve histopatolojik sonuçlarının değerlendirmeyi amaçladık.

**Materyal-Metod:** Çalışmamızdan Ocak 2018-2023 tarihlerin arasından hastanemize başvuranı ve anormali uterin kanama tanısı koyulanı 2440 hasta retrospektif olarak değerlendirilmiştir. Hastaların demografik özellikleri hastane veritabanından elde edilmiştir. Histeroskopiler tercihen adet döngüsünün erken foliküler fazında kanamanın olmadığı veya çok az kanamanın olduğu dönemde gerçekleştirildi.

**Bulgular:** AUK nedeniyle histeroskopi yapılan hastalarda histopatolojik tanı doğrulanmadan önce elde edilen bulgular değerlendirildiğinde 1320(%54) hastada herhangi bir intrauterin patoloji görülmedi. Çalışma grubundaki 890(%36,4) hastada Endometrial polip saptanmış olup, en sık bildirilen histeroskopik bulgu olarak not edilmiştir. 115(%5,1) hastada leiomyom, 70(%2,8) hastada endometriyal hiperplazi, 25(%1) hastada intrauterin araç (RİA) kaybı, 15(%0,6) hastada intrauterin adezyon, 5(%0,2) hastada endometrium kanseri saptanmıştır. AUK nedeniyle histeroskopi yapılan hastalarda histopatolojik olarak elde edilen sonuçlar değerlendirildiğinde 1390(%56,9) hastada herhangi bir intrauterin patoloji görülmedi. 830(%34) hastada Endometrial polip saptanmış olup, en sık bildirilen histopatolojik bulgu olarak not edilmiştir. Çalışma grubundaki 110(%4,5) hastada leiomyom, 65(%2,6) hastada endometriyal hiperplazi, 25(%1) hastada intrauterin araç kaybı, 15(%0,6) hastada intrauterin adezyon, 5 (%0,2) hastada endometrium kanseri vakası saptanmıştır.

**Sonuç:** Genel bir değerlendirme için histeroskopi premenopozal kadınlarda önemli bir araçtır. Histeroskopik bulgular ve histopatolojik tanıları deneyimli ellerde iyi bir korelasyon gösterebilir.

**Anahtar Kelimeler:** Anormal Uterin Kanama, Histeroskopi, Küretaj

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## EVALUATION OF HYSTEROSCOPIC AND PATHOLOGICAL FINDINGS IN WOMEN WITH ABNORMAL UTERINE BLEEDING

### Abstract

**Objective:** Although abnormal uterine bleeding (AUB) is generally a symptom of benign pathologies. It may also be the most common symptom of endometrial hyperplasia (EH) or cancer. Hysteroscopy (H/S) has great diagnostic accuracy because it allows direct visualization of these pathologies. In our study, we aimed to evaluate the hysteroscopic findings and histopathological results of women with abnormal uterine bleeding who underwent hysteroscopy and biopsy.

**Materials & Method:** From our study, 2440 patients who were admitted to our hospital between January 2018-2023 and were diagnosed with AUB were evaluated retrospectively. Demographic characteristics of the patients were obtained from the hospital database. H/S were preferably performed in the early follicular phase of the menstrual cycle when there was no or very little bleeding.

**Results:** When the findings obtained before confirming the histopathological diagnosis in patients who underwent hysteroscopy because of AUB were evaluated, no intrauterine pathology was observed in 1320 (54%) patients. Endometrial polyp was detected in 890 (36.4%) patients in the study group and was noted as the most frequently reported hysteroscopic finding. Leiomyoma in 115 (5.1%) patients, EH in 70(2.8%) patients, intrauterine device (IUD) loss in 25 (1%) patients, intrauterine adhesion in 15 (0.6%) patients, and Endometrial Cancer was detected in 5 (%0.2) patients. When the histopathological results were evaluated in patients who underwent hysteroscopy because of AUB, no intrauterine pathology was observed in 1390 (56.9%) patients. Endometrial polyp was detected in 830 (34%) patients and was noted as the most frequently reported histopathological finding. In the study group, 110 (4.5%) patients had leiomyoma, 65 (2.6%) had EH, 25 (1%) had IUD loss, 15 (0.6%) had intrauterine adhesion, 5 (0.2%) patients had Endometrial Cancer.

**Conclusion:** For a general evaluation, H/S is an important tool in premenopausal women. Hysteroscopic findings and histopathological diagnoses may show a good correlation in experienced hands.

**Keywords:** Abnormal Uterine Bleeding, Curettage, Hysteroscopy

### 1. INTRODUCTION

Although Abnormal Uterine Bleeding (AUB) is a symptom of benign pathologies in general, it can also present as the most common symptom of Endometrial Hyperplasia or cancer. AUB is considered an important gynecological problem affecting women of all ages (1). AUB causes social, economic, and psychological problems with anemia and fatigue. The method of detecting abnormal menstrual function is based on the understanding of the physiological mechanisms involved in the regulation of the normal cycle. Menstrual cycle is a hormone-controlled process functioning on the basis of the hypothalamic-pituitary-ovarian axis and manifests itself with histological changes in the endometrium (2). The length of the menstrual cycle is determined by the rate and quality of follicular growth and development, and it is normal if it varies among patients (3-4). Approximately 20% of women presenting with Abnormal Uterine Bleeding are adolescents, 50% are premenopausal and postmenopausal women, and 30% are in the reproductive period (5-7). The cause of abnormal

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uterine bleeding was determined to be pathological endometrial polyp or branch leiomyoma because of the tight uterus during the reproductive years (8, 9). Pathological factors such as Leiomyoma, Endometrial Polyp, Endometrial Hyperplasia, and Endometrial Cancer are among the causes of complaints in perimenopausal women (9, 10). The traditional method used in the evaluation of Abnormal Uterine Bleeding is based on pathological examination of the material obtained by endometrial curettage (11, 12). Stock and Kanbour performed endometrial curettage on patients who underwent hysterectomy and found that less than 75% of the cavity underwent curettage in 84% of the patients, less than 50% of the cavity in 60%, and less than 25% of the cavity in 16% (13). Stovall, on the other hand, showed that dilation and curettage during the pre-hysterectomy process missed 6% of malignant lesions (14). Focal anomalies such as Submucous Myomas, Endometrial Polyps, and Adenocarcinoma can be missed with endometrial curettage (13, 14). Intrauterine pathology was detected in more than 50% of premenopausal women who underwent hysteroscopy because of menstrual irregularity or infertility, which is much higher than that obtained with endometrial curettage (15). Hysteroscopy is used as a safe endoscopic technique in the diagnosis and treatment of uterine cavity pathologies in gynecology (16, 17). It has great diagnostic accuracy since it allows direct visualization of possible pathologies. Diagnostic and simple operative hysteroscopy can be performed in the clinic without any anesthesia or analgesia (18). Also, hysteroscopy reduces hospital stay, morbidity and healthcare costs (19). Hysteroscopy with guided biopsy has become the “gold standard” in the diagnosis of endometrial pathologies in patients who have Abnormal Uterine Bleeding (20, 21). In the present study, the purpose was to evaluate the hysteroscopic findings and histopathological results of women who had Abnormal Uterine Bleeding who underwent hysteroscopy and biopsy.

## **2. MATERIALS AND METHODS**

A total of 2440 patients who were admitted to our hospital between January 2018 and January 2023 and were diagnosed with Abnormal Uterine Bleeding were evaluated retrospectively in the present study. The demographic and reproductive characteristics of the patients were obtained from patient files and hospital database. Hysteroscopies were performed by using a 4-mm Karl-Storz Telescope that had saline in a distension environment. Hysteroscopies were preferably performed in the early follicular phase of the menstrual cycle when there was no or very little bleeding. All diagnostic hysteroscopies were performed under anesthesia and antibiotics were administered before or after the procedure. If the hysteroscopic appearance was normal, histological samples of the endometrium or lesions

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were obtained with endometrial curettage. If the hysteroscopic appearance was abnormal, it was surgically removed with a hysteroscopic resectoscope. Hysteroscopic findings were defined based on the appearance of the surface of the uterine cavity before the biopsy. The histopathological result was considered the definitive diagnosis, and a standard histopathological criterion was used. Hysteroscopic findings and histopathological results were classified as Normal, Endometrial Polyp, Submucous Myoma, Endometrial Hyperplasia, Endometrial Cancer, Intrauterine Device Loss, and Adhesion. Our study was started after receiving Ethics Committee approval from our hospital, numbered 2023/39-11, dated 06/12/23. The study was conducted in accordance with the Principles of the Declaration of Helsinki. An Informed Consent Form was obtained from the patients and the rules regarding animal rights were followed in the present study. Qualitative data were presented as numbers and percentages (%). The study data were statistically analyzed by using the SPSS version 20 (IBM SPSS Statistics, IBM Corporation, Armonk, NY, USA).

### **3. RESULTS**

Hysteroscopy was performed to evaluate the uterine cavity in 2440 patients of reproductive age and diagnosed with abnormal uterine bleeding, and endometrial histopathological sampling was performed peroperatively in the study. The average age of these women was 34 (between 21 and 53). A total of 1020 (41.8%) patients were nulliparous in the study group, 420 (17.2%) patients were primiparous, and 980 (40%) patients were multiparous. The Body Mass Index of 1900 (77.8%) patients was found to be  $< 25 \text{ kg/m}^2$  in the study group, 320 (13.1%) patients had BMI between  $25\text{-}30 \text{ kg/m}^2$ , and 220 (9%) patients had BMI  $>30 \text{ kg/m}^2$ . The average endometrial thickness that was measured by Transvaginal Ultrasonography was found to be 10.8 mm, and the measured values were found to be between 5-22 mm (Table 1).

**Table 1:** The Demographic and Clinical Data of the Patients with Abnormal Uterine Bleeding

	n - (%)
Nulliparous	1020- (41.8%)
Primiparous	420 - (17.2%)
Multiparous	980 - (40%)
BMI < 25 kg/m <sup>2</sup>	1900 - (77.8%)
BMI 25-30 kg/m <sup>2</sup>	320 - (13.1%)
BMI > 30 kg/m <sup>2</sup>	220 - (9%)
Endometrial Thickness (mm)	10.8 - (5-22)

The most common complaint of the patients who were included in the study was found to be menometrorrhagia (29.5%), the second most common complaint was menorrhagia, and the least common complaint was oligomenorrhea (3.75%) (Table 2).

**Table 2:** The Symptoms in the Patients with Abnormal Uterine Bleeding

Symptoms	n - (%)
Menometrorrhagia	720 - (29.5%)
Menorrhagia	630 - (25.8%)
Metrorrhagia	480 - (19.6%)
Polymenorrhea	370 - (15.1%)
Hypomenorrhea	150 - (6.25%)
Oligomenorrhea	90 - (3.75%)

When the findings obtained before the histological diagnosis was confirmed in patients who underwent hysteroscopy because of Abnormal Uterine Bleeding were evaluated, no intrauterine pathology was detected in 1320 (54%) patients. Endometrial polyp was detected in 890 (36.4%) patients and was noted as the most frequently reported hysteroscopic finding in the study group. A total of 115 (5.1%) patients had uterine myoma, 70 (2.8%) had Endometrial Hyperplasia, 25 (1%) had Intrauterine Device (IUD) loss, 15 (0.6%) had Intrauterine Adhesion, 5 (0.2%) had Endometrial Cancer (Table 3).

**Table 3:** The Hysteroscopic Findings of Patients with Abnormal Uterine Bleeding

Results	n - (%)
Normal	1320 - (54%)
Endometrial Polyp	890 - (36.4%)
Submucous Myoma	115 - (5.1%)
Endometrial Hyperplasia	70 - (2.8%)
Intrauterine Device Loss	25 - (1%)
Adhesion	15 - (0.6%)
Endometrial Cancer	5 - (0.2%)

When the histopathological results of the patients who underwent hysteroscopy because of abnormal uterine bleeding were evaluated, no intrauterine pathology was detected in 1390 (56.9%) patients. Endometrial Polyp was detected in 830 (34%) patients and was noted as the most frequently reported histopathological finding in the study group. A total of 110 (4.5%) patients had Uterine Myoma, 65 (2.6%) had Endometrial Hyperplasia, 25 (1%) had Intrauterine Device (IUD) loss, 15 (0.6%) had Intrauterine Adhesion, and Endometrial Cancer was detected in 5 (0.2%) (Table 4).

**Table 4:** The Histopathological Findings of Patients with Abnormal Uterine Bleeding

Results	n - (%)
Normal	1390 - (56.9%)
Endometrial Polyp	830 - (34%)
Submucous Myoma	110 - (4.5%)
Endometrial Hyperplasia	65 - (2.6%)
Intrauterine Device Loss	25 - (1%)
Adhesion	15 - (0.6%)
Endometrial Cancer	5 - (0.2%)

When office hysteroscopy and histopathology results were compared, endometrial polyp was detected in 12 patients and endometrial hyperplasia in 8 patients in the biopsy of the patients in whom endometrial pathology was not detected by office hysteroscopy. Endometrial Hyperplasia was detected in 6 patients in the endometrial biopsy of the patients who had Endometrial Polyps detected during hysteroscopy. Endometrial Polyps were detected in 5 patients in the endometrial biopsy of the patients whose office hysteroscopy detected submucous myoma.

#### **4. DISCUSSION**

Abnormal Uterine Bleeding makes up 69% of the complaints that require gynecological referral when perimenopausal and postmenopausal age groups are taken into account altogether (22). The advances in noninvasive or invasive diagnostic techniques have now led to the beginning of an important era in the evaluation of abnormal uterine bleeding (23). The most commonly used procedure for sampling the endometrial tissue for histopathological evaluation is gynecological curettage (24). In a study conducted with 13,592 cases by Grimes, it was reported that dilatation and curettage should not be the primary procedure because of sampling of the endometrium (7). Hysteroscopy is becoming increasingly important in modern gynecology with technical developments and the diagnosis and treatment of intrauterine problems (25). Today, Hysteroscopy is preferred over dilatation-

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curettage because it allows direct visualization of the endometrial cavity and does not require biopsy in suspected cases. Diagnostic Hysteroscopy has become the “gold standard” for the diagnosis of endometrial pathologies in patients who have Abnormal Uterine Bleeding (20, 21). It has been used widely for years because it is easy, safe and has a low complication rate. Abnormal Uterine Bleeding is considered the most common hysteroscopy indication in the literature (26, 27). The results of premenopausal patients who complained of abnormal uterine bleeding and underwent hysteroscopy were analyzed in the present study, which was conducted with 2440 patients. The most common hysteroscopic and histopathological result was found to be normal endometrium in the present study, which was found to be compatible with the literature data (26, 28). In previous studies, unlike our study, postmenopausal patients were also included (26, 28). However, in a similar study, contrary to our findings, data were reported showing a high rate of endometrial pathologies (29). In our study, the most common pathology detected after normal findings was Endometrial Polyp, but Submucous Myomas were found to be the most important finding in the premenopausal period in another study (30). The incidence of endometrial pathology, which is reported to be between 9.1-72.8% in the literature, was found to be 43.1% in the present study (29, 32). Lasmar et al. reported that the most common hysteroscopic finding was Endometrial Polyp with a rate of 33.6%, and the frequency of occurrence was 27.5% after histopathological diagnosis (26). The incidence of Endometrial Polyps decreased from 36.4% to 30% after histopathological diagnosis in our study. Although Endometrial Polyps are easily diagnosed and treated with Hysteroscopy, the presence of polyps might increase the risk of missing Hyperplasia (33). De wit et al. recommended that biopsy be definitely performed in these patients. We used the same routine biopsy procedure in our patient series (33). The incidence of Myoma Uteri was 4.5% in our study, and there are studies in the literature reporting higher and lower rates (33, 35). These different results may be associated with patient selection criteria and the retrospective design of studies. A possible explanation in studies where the incidence of Submucous Myoma was reported low may be that patients with Abnormal Uterine Bleeding require Hysterectomy before Hysteroscopy. When compared to other studies in the literature, there are publications reporting the presence of malignancy but some report that it was not detected. Endometrial Cancer was detected in 5 (0.2%) patients in the present study (34, 35). Although Intrauterine Device Loss was 1% in premenopausal women with abnormal uterine bleeding in our study, in the study of Guin et al. conducted in India, a 7% rate of Intrauterine Device Loss was reported (34). The incidence of Endometrial Hyperplasia in women with Abnormal Uterine Bleeding varied between 3.2-30% (33-35). Our incidence of Endometrial Hyperplasia was



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lower than the literature data (2.6%). The reason for this might be that the incidence of premalignant and malignant conditions increases as patients become older. Our Endometrial Hyperplasia frequency was found to be lower than the literature data because we excluded postmenopausal patients. However, patients who had excessive bleeding or emergency curettage might have caused that this rate was lower in our study. This factor might explain the very low incidence of Endometrial Hyperplasia and can also be considered an important limitation of the present study. The retrospective design and interobserver differences in Hysteroscopy may be considered other disadvantages of our study. Unlike the literature data, including only premenopausal women in the study may be an advantage.

## **5. CONCLUSION**

For a general evaluation, hysteroscopy is considered an important diagnostic tool for premenopausal women. Hysteroscopic findings and histopathological diagnoses may show a good correlation in experienced hands. However, future prospective studies are required to establish such a correlation, especially in premalignant and malignant cases.

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