

Transvaginal Ultrasonography and Office Hysteroscopic Findings and Their Hystopathologic Correlation in Asymptomatic and Symptomatic Postmenopausal Women

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ÖZET

Postmenopozal asemptomatik ve semptomatik hastalarda transvajinal ultrasonografi ve ofis histeroskopi bulgularının histopatolojik tanımlarla korelasyonunun değerlendirilmesi

Amaç: postmenopozal asemptomatik ve semptomatik hormonoreapi (HRT) alan ve almayan hastalarda transvajinal ultrasonografi ve ofis histeroskopinin histopatolojik sonuçlarla korelasyonunun değerlendirilmesi.

Gereç ve Yöntem: Anormal endometrial kalınlık tespit edilen 80 asemptomatik ve 70 semptomatik postmenopozal toplam 150 hastaya ofis histeroskopi uygulandı. Endometrial kalınlık HRT almayanlarda 5 mm ve HRT alanlarda 8mm üzerinde anormal olarak kabul edildi Her hastaya histeroskopi sonrası endometrial biyopsi uygulandı. Transvajinal ultrasonografi ve ofis histeroskopi bulguları histopatolojik tanımlarla karşılaştırıldı.

Bulgular: Toplam 150 hastadan 96'sı hormon replasman tedavisi almazken (%64), 54'ü (%36) hormon replasman tedavisi almaktaydı. Hastalardan 80'i (%53.3) asemptomatik, 70'i (%46.7) semptomatikti. Transvajinal ultrasonografi %28.7'sinde normal bulundu. Anormal endometrial kalınlık %55.3 hastada tespit edildi. Histeroskopik değerlendirmede hastaların %15.3'ü normaldi. Endometrial polip en sık gözlenen anormal görünümündü (%27.3). Endometrial polip asemptomatik grupta en sık gözlenen histopatoloji tanı iken semptomatik grupta endometrial hiperplazi ve atrofik endometrium tanısı gözlemlendi. Endometrial hiperplazi tanısı 3 asemptomatik ve 10 semptomatik hastada tespit edildi. Ofis histeroskopinin endometrial hiperplazi tanısı için prediktivitesi %58.8 olarak saptandı. Asemptomatik hastalar HRT almıyordu ve bu hastalar histeroskopik gözlemlerde endometrial polip olarak değerlendirildi. Semptomatik hastaların transvajinal ultrasonografilerinde endometrial kalınlık hepsinde anormal olarak değerlendirildi. Histeroskopik incelemelerinde tüm olgular patolojik inceleme ile uyumlu olarak hiperplastik endometrial değişiklikler olarak değerlendirildi.

Sonuç: Endometrial polip transvajinal ultrasonografide anormal endometrial kalınlık tespit edilen asemptomatik hastalardaki en sık bulgu olarak görülmektedir. Ofis histeroskopi semptomatik hastalarda endometriyal hiperplazinin tespitinde yüksek sensitiviteye sahip görülmele birlikte asemptomatik hastalarda histeroskopide endometrial polip gibi yanlış negatif sonuçlar tespit edilebilir. Endometriyal biyopsi bu nedenle halen transvajinal ultrasonoda anormal endometriyal kalınlık tespit edilen hastalarda gerekmektedir.

Anahtar kelimeler: Transvajinal ultrasonografi, ofis histeroskopi, menopoz

ABSTRACT

Transvaginal ultrasonography and office hysteroscopic findings and their histopathologic correlation in asymptomatic and symptomatic postmenopausal women

Objective: To investigate the role of ultrasonography and office hysteroscopy in the diagnosis of endometrial status with the correlation of histopathologic findings in symptomatic and asymptomatic group of menopausal patients with hormone replacement therapy (HRT) users and non users.

Material and Methods: Asymptomatic 80 patients with abnormal endometrial thickness and 70 patients with postmenopausal uterine bleeding were undergone office hysteroscopy. Endometrial thickness was diagnosed as abnormal with more than 8 millimeters in HRT users and 5 millimeters in non-users respectively. All 150 patients were evaluated with office hysteroscopy. Endometrial sampling was carried out in all cases. Transvaginal ultrasonography and office hysteroscopy procedures were correlated with the histopathologic findings.

Results: 96 of the patients (64%) were not using HRT and 54 of them (36%) were using HRT. 80 (53.3%) of the patients were asymptomatic while 70 (46.7%) of them were symptomatic. Transvaginal ultrasonography were normal in 28.7% of the patients. Abnormal thickness of the endometrium was found in 55.3% of cases. At hysteroscopic evaluation 15.3% of the patients were normal. Endometrial polyp (27.3%) was the most significant abnormal finding. Endometrial polyp (51.3%) was the most significant hystopathologic diagnosis in the asymptomatic group while 14.3% of cases had hyperplasia and 34.3% of cases atrophic endometrium was found in the symptomatic group. Endometrial hyperplasia was diagnosed at 3 asymptomatic and 10 symptomatic patients. Over all predictivity of office hysteroscopy for endometrial hyperplasia was 58.8%. Asymptomatic patients were non HRT users and hysteroscopic finding was endometrial polyp in all cases. Endometrial thickness was all abnormal in symptomatic patients. Hysteroscopic diagnosis was hyperplastic endometrium in all of the cases.

Conclusion: Endometrial polyps are the most common finding at hysteroscopy in asymptomatic patients with abnormal endometrial thickness in transvaginal ultrasonography. Office hysteroscopy is highly sensitive in symptomatic patients though false negative diagnosis such as polyps is common in asymptomatic patients and endometrial biopsy is still indicated in patients with abnormal endometrial thickness in transvaginal ultrasound.

Key words: Transvaginal ultrasonography, office hysteroscopy, menopause

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INTRODUCTION

Endometrial carcinoma is a frequent and important disease of the female reproductive tract and three

out of four cases occurs at menopausal period. Ultrasonographic evaluation of the endometrial thickness is the first diagnostic procedure for the asymptomatic patients and for symptomatic patients with postmenopausal uterine bleeding (1,2). A limitation of ultrasound is that an abnormal finding is not specific. Ultrasound can not always reliably distinguish between benign proliferation, hyperplasia, polyps, and cancer (3,4). Hysteroscopy with endometrial biopsy represents a modern procedure for the diagnosis of the intrauterine

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diseases in symptomatic patients with uterine bleeding and asymptomatic menopausal patients with abnormal endometrial thickness (2). The aim of this study was to investigate the role of ultrasonography and office hysteroscopy in the diagnosis of endometrial status with the correlation of histopathologic findings in symptomatic and asymptomatic group of 150 menopausal patients with HRT users and non users.

MATERIAL AND METHODS

A total number of 150 patients attending to our outpatient menopause clinic, including 80 asymptomatic patients with abnormal endometrial thickness and 70 symptomatic patients with postmenopausal uterine bleeding were undergone office hysteroscopy. Endometrial thickness was diagnosed as abnormal with more than 8 millimeters in HRT users and 5 millimeters in non-users respectively. In a lithotomic position, a bimanual pelvic examination was performed. The cervix was then visualized with a small size vaginal speculum. A 4 mm hysteroscope (Storz-Germany) was introduced into the uterine cavity without dilatation or using a tenaculum. No local anesthesia was administered before the examination. Saline was used for the distention of the endometrial cavity. Endometrial sampling was carried out after the office hysteroscopy in all cases. Transvaginal ultrasonography and office hysteroscopy procedures were correlated with the histopathologic

findings. Statistical analysis was performed using SPSS 12.0. Beside the descriptive statistical methods (mean, standard deviation) Chi-Square test was used to compare mean values between symptomatic and asymptomatic patients. The results were evaluated with a confidence interval 95% and significance level of $p < 0.05$.

RESULTS

The average age of the patients was $52,7 \pm 5,54$ (42-68) years old. 96 of them (64%) were not using HRT and 54 of them (36%) were using HRT. Eighty patients (53.3%) were asymptomatic while 70 (46.7%) of them were symptomatic. HRT usage was not statistically different between symptomatic and asymptomatic patients ($p > 0.05$) (Table 1).

Transvaginal ultrasonography were normal in 28.7% of the patients. Abnormal thickness of the endometrium was found in 55.3% of cases. Abnormal fluid retention in the endometrial cavity (4.7%), uterine myoma (6%) and endometrial polyp (5.3%) were the other findings respectively. Normal sonography was significantly diagnosed in symptomatic patients and abnormal endometrial thickness was detected significantly higher in the asymptomatic patients. (Chi-Square test $p < 0.001$) (Table 2).

At hysteroscopic evaluation 15.3% of the patients were normal. Endometrial polyp (27.3%) was the most significant abnormal finding. Atrophic endometrium (17.3%), hyperplastic endometrium (11.3%), uterine myoma (12%) were the other hysteroscopic findings (Table 3).

Histopathologic findings were atrophic endometrium (20%), normal endometrium (22.7%), proliferative endometrium (3.3%) desidualized endometrium (12.7%), endometrial hyperplasia (8.7%), endometrial polyp (30.7%), and endometrial infection (3.3%) respectively.

Table 1: Symptomatic findings in HRT users and non users

	Asymptomatic	Symptomatic	p
HRT	51 (63.8%)	45 (64.3%)	0.946
Non Users			not
HRT Users	29 (36.2%)	25 (35.8%)	significant
Total	80	70	Chi-Square test

Table 2: Ultrasonographic findings in symptomatic and asymptomatic patients

Ultrasonographic Findings	Asymptomatic	Symptomatic	p
Normal sonographic findings	6 (7.5%)	37 (52.9%)	
Abnormal endometrial thickness	59 (73.8%)	24 (34.3%)	
Abnormal endometrial fluid retention	4 (5.0%)	3 (4.3%)	0.001**
Uterine myoma	3 (3.8%)	6 (8.6%)	
Endometrial polyp	8 (10.0%)	-	
Total	80 (100%)	70 (100%)	Chi-Square test

Table 3: Office hysteroscopic findings in symptomatic and asymptomatic patients

Hysteroscopic Findings	Asymptomatic	Symptomatic	p
Normal hysteroscopy	15 (18.8%)	8 (11.4%)	
Atrophic endometrial findings	3 (3.8%)	23 (32.9%)	
Hyperplastic endometrial findings	-	17 (24.3%)	
Uterin myoma	8 (10.0%)	10 (14.3%)	
Intrauterine anatomical abnormality	13 (16.3%)	3 (4.3%)	0,001 **
Endometrial polyp	38 (47.5%)	3 (4.3%)	
Intrauterine synechia	3 (3.8%)	4 (5.7%)	
Sevical polyp	-	2 (2.9%)	
Total	80 (100%)	70 (100%)	Chi-Square test

Table 4: Histopathologic findings in symptomatic and asymptomatic patients

Histopathologic Findings	Asymptomatic	Symptomatic	p
Atrophic endometrium	6 (7.5%)	24 (34.3%)	
Normal endometrial	16 (20.0%)	18 (25.7%)	
Desidual reaction	11 (13.8%)	8 (11.4%)	
Endometrial hyperplasia	3 (3.8%)	10 (14.3%)	0,001 **
Endometrial polyp	41 (51.3%)	3 (4.3%)	
Endometrial infection	-	5 (7.1%)	
Proliferative endometrium	3 (3.8%)	2 (2.9%)	
Total	80 (100%)	70 (100%)	Chi-Square test

Endometrial polyp was the most significant hysteroscopic finding (47.5%) in the group of asymptomatic patients and there were only 3 cases of endometrial polyp (4.3%) in the symptomatic group. Atrophic endometrium was diagnosed significantly higher in the symptomatic patients. And endometrial polyp was significantly diagnosed in the asymptomatic patients. (Chi-Square test $p < 0.001$) (Table 4).

Atrophic endometrial findings (32.9%) and hyperplastic endometrial findings (24.3%) were observed at office hysteroscopy in symptomatic patients. 36.3% of the asymptomatic and 35.7% of the symptomatic patients were using hormone replacement therapy. Endometrial polyp (51.3%) was the most significant histopathologic diagnosis in the asymptomatic group while 14.3% cases of hyperplasia and 34.3% cases of atrophic endometrium were found in the symptomatic group. Endometrial polyp and atrophic endometrium were significantly higher in the asymptomatic and the symptomatic groups respectively. (Chi-Square test $p < 0.001$)

Endometrial hyperplasia was diagnosed in 3 of the asymptomatic and 10 of the symptomatic patients. Over all predictivity of hysteroscopy for endometrial hyperplasia is 58.8%. Asymptomatic patients were non

HRT users and hysteroscopic finding was endometrial polyp in all cases. Endometrial thickness were all abnormal in symptomatic patients ranging 9-13 mm (10.3 ± 1.49 SD). Hysteroscopic diagnosis were hyperplastic endometrium in all of the cases.

DISCUSSION

Transvaginal ultrasonography for endometrial assessment among postmenopausal women has become an essential screening in gynecological practice (1-3). In our study transvaginal ultrasonography were normal in 28.7% of patients. Abnormal thickness of the endometrium was found in 55.3% of cases. There are studies concerning the cost effectiveness of the transvaginal ultrasonography. Dijkhuizen et al. studied the effectiveness of transvaginal sonography in patients with postmenopausal bleeding (3). They found that transvaginal sonography is of use and endometrial biopsy is the most cost effective method for detecting endometrial carcinoma. Gambaciani et al. suggested that endometrial screening is not worthwhile as a screening method for asymptomatic patients (4). Omodei et al. found 9% abnormal endometrial findings

in patients with endometrial thickness of more than 4 millimeters (1). Bachmann et al. studied 428 postmenopausal women investigated for abnormal uterine bleeding and found that hysteroscopy alone had better results than ultrasound alone (5). In our study we have diagnosed 3 cases of endometrial hyperplasia out of 59 (5.1%) asymptomatic patients with abnormal endometrial thickening in transvaginal ultrasonography. Perrone et al. studied the hysteroscopic findings of 410 symptomatic menopausal patient using HRT or not. They found endometrial polyps in 23.7% of HRT users and 30.8 of the non users (6). In our study endometrial polyps were also the most significant finding of office hysteroscopy in in the group of asymptomatic patients (47.5%) but there were only 3 cases of endometrial polyp in the symptomatic group (4.3%). Although this difference can not be related HRT as there were no cases in the non users. It may be due to the difference in number of the study groups. From our data it can be concluded that benign intrauterine disease especially endometrial polyps are more frequent in the postmenopausal asymptomatic patients. Although Perrone et al. found that endometrial polyp are more frequent in women who do not use HRT, we have found no difference between users and non users of HRT (6). Savelli et al. studied 509 patients that consecutively underwent hysteroscopic removal with pathologic diagnosis of endometrial polyps (7). Histologically, 358 polyps (70.3%) were benign; 131 polyps (25.7%) had simple or complex endometrial hyperplasia, 16 polyps (3.1%) had hyperplasia with atypia, and 4 polyps (0.8%) were cancerous. In our study endometrial hyperplasia was diagnosed at 3 asymptomatic and 10 symptomatic patients. Asymptomatic patients were non HRT users and hysteroscopic finding was endometrial polyp in all cases. Endometrial thickness were all abnormal in symptomatic patients. Hysteroscopic diagnosis was hyperplastic endometrium in all of the cases. Loverro et al. studied a HRT non user group of 106 symptomatic patients (8). In that study all patients with endometrial thickness more than 15 mm at sonography had an endometrial carcinoma. In the group of patients with endometrial thickness between 6 and 14 mm, they have found normal atrophic endometrium. On the other hand, they have found a very good relationship between hysteroscopy and histology (sensitivity 97.5% and specificity 100%), confirming its usefulness in diagnosis

of postmenopausal uterine bleeding. Similarly in our study we have found a good correlation between hysteroscopy and histopathological findings in symptomatic patients.

Gambacianni et al. reported 850 patients with endometrial thickening with histopathologic diagnosis as endometrial hyperplasia in 6.9% and adenocarcinoma in 0.7% cases (4). In our study histopathologic findings were endometrial hyperplasia in 8.7% of the cases and there was no case of adenocarcinoma. In our study average age of patients at the diagnosis of adenocarcinoma was 63 years and the average age of our study group was 52 years. This may be the reason for lack of adenocarcinoma found in our study. Bachmann et al. found that negative hysteroscopy reduced the probability of cancer to 1.3% (5). In women less than 60 years of age who use HRT, a negative hysteroscopy further reduced this probability to 0.1%. Overall, a positive hysteroscopy increased the probability of cancer to 38.9%. However, in women over 60 years of age not using HRT, a positive hysteroscopy increased this probability to 59.4%. Combining ultrasound results with hysteroscopy did not meaningfully alter the diagnosis (5). In this study office hysteroscopy was highly sensitive in symptomatic patients and endometrial polyps were the most common finding at hysteroscopy in asymptomatic patients with abnormal endometrial thickness in transvaginal ultrasonography. It may be difficult to detect a distinct polyp on ultrasound examination because the polyp may appear as diffusely thickened endometrium (9). Also hysteroscopy can be superior to curettage in the diagnosis of polyps (7-11). In our study transvaginal ultrasonography was able to identify these polyps in 10% of the cases. There were few cases of polyps in the symptomatic group but there were three cases of endometrial hyperplasia misdiagnosed as endometrial polyp in the asymptomatic group. Thus the clinical importance of the presence of the polyp in even entirely asymptomatic patients can not be neglected. Especially in HRT users hysteroscopy is useful in the diagnosis of intrauterine abnormalities as it is well known that persistent abnormal uterine bleeding is the main reason of poor compliance in HRT. Histopathologic diagnosis with endometrial biopsy is still indicated in patients with postmenopausal bleeding and abnormal endometrial thickness in transvaginal ultrasound.

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