Results of Endometrial Sampling in Patients with Abnormal Premenopausal Hemorrhages: Analysis of 1492 Cases

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ABSTRACT

OBJECTIVE: The aim of the study is the evaluation of histopathologic pattern in premenopausal patients subjected to endometrial sampling due to abnormal uterine hemorrhages.

STUDY DESIGN: The results of 1492 premenopausal patients subjected to endometrial sampling due to abnormal uterine hemorrhages in Diyarbakır Maternity and Children Hospital between January 2013 and December 2013 have been evaluated retrospectively. Adolescents have been excluded from the study.

RESULTS: The average age of the patients was 40.75±7.18 years and parity average was 5.01±2.87. 562 of the cases (37.7%) were from the 19-39 years age group while 930 of them (62.3%) were from the 40-51 years age group. The diagnoses were as follows: secretory endometrium for 547 of the cases (36.7%), proliferative endometrium for 377 of the cases (25.3%), endometrial polyp for 179 of the cases (12%), irregular proliferative endometrium for 137 of the cases (9.2%), simple endometrial hyperplasia for 93 of the cases (6.2%), endometritis for 81 of the cases (5.4%), insufficient material for 58 of the cases (3.9%), complex endometrial hyperplasia for 17 of the cases (1.1%) and endometrial adenocarcinoma for 3 of the cases (0.2%).

CONCLUSION: In premenopausal cases, functional endometrial modifications (secretory and proliferative endometrium) are the most frequent observations. Endometrium cancer, endometrial polyp and precancer endometrial hyperplasia increase with age. High parity rates are supposed to decrease the risk of endometrium cancer.

Keywords: Abnormal uterine hemorrhage, Premenopause, Histopathologic diagnosis

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Introduction

Abnormal uterine hemorrhages are among the most frequent causes of application to gynecology policlinics.[1] They represent one third of all the cases among all the applications.[2-3] Large choices of systemic diseases may be among the causes as well as pregnancy complications, anovulation, myoma, polyp and cancer.[4] Upon detailed examination, no organic cause may be determined in 80% of the patients.[5] Endometrium cancer is also one of the sub latent causes in addition to pre cancer lesions such as endometrial hyperplasia. Endometrial sampling is important to exclude both of these pathologies especially in perimenopausal and postmenopausal women. Due to the increasing risk of cancer with age, endometrial sampling shall be performed on all women over 45 years with abnormal uterine hemorrhage.[6] In young patients, endometrial sampling becomes necessary when these hemorrhages do not heal with medical treatment.[4]

The endometrial sampling performed to establish tissue diagnosis in abnormal uterine hemorrhage is the standard diagnosis method and facilitates the correct histopathologic diagnosis and contributes to treatment strategies.[7] Endometrial sampling may be performed under general anesthesia in operation room conditions or under local anesthesia. In this purpose, sampling may be performed using dilatation & curettage

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(D&C), Karmen aspirator and Pipelle blunting or by direct observation of endometrial cavity by hysteroscopy.

The aim of the study is the evaluation of histopathologic pattern in patients with premenopausal subjected to endometrial sampling due to abnormal uterine hemorrhages.

Material and Method

The results of 1492 premenopausal patients subjected to endometrial sampling due to abnormal uterine hemorrhages in Diyarbakır Maternity and Children Hospital between January 2013 and December 2013 have been evaluated retrospectively. Premenopausal cases have been included into the study. Adolescent group (13-18 years) has been excluded from the study. The patients have been divided into two groups as 19-39 years (group 1) and 40-51 years (group 2). The endometrial pathologies observed in the two groups have been compared. Hemorrhages associated to pregnancy and complications have been excluded from the study.

Statistical Analysis

While evaluating the observations obtained in the study, IBM SPSS Statistics 22 (IBM SPSS, Turkey) software has been used. Mann Whitney U test has been used for the comparison of quantitative results in addition to the defining statistical methods (Average, Standard Deviation, frequency) for the evaluation of data. Chi-Square test and Continuity (Yates) Correction have been used for the comparison of qualitative data. $p<0.05$ was considered significant.

Observations

The study has been performed on 1492 women patients between January 2013 and December 2013. The ages of the patient vary between 19 and 51 years, the average is 40.75±7.18 years. The parity numbers vary between 0 and 17, the average is 5.01±2.87, and the median is 5. 562 of the patients (37.7%) belong to the 19-39 years group while 930 of them (62.3%) belong to the 40-51 years group.

The distribution of histopathologic diagnosis is summarized in table 1. When considering the distribution of the diagnoses; the results were as follows: secretory endometrium for 547 of the cases (36.7%), proliferative endometrium for 377 of the cases (25.3%), endometrial polyp for 179 of the cases (12%), irregular proliferative endometrium for 137 of the cases (9.2%), simple endometrial hyperplasia for 93 of the cases (6.2%), endometritis for 81 of the cases (5.4%), insufficient material for 58 of the cases (3.9%), complex endometrial hyperplasia for 17 of the cases (1.1%) and endometrial adenocarcinoma for 3 of the cases (0.2%).

Table 1: Distribution of the diagnoses

	n	%
Simple Endometrial Hyperplasia	93	6.2
Irregular Proliferative Endometrium	137	9.2
Endometrial Polyp	179	12.0
Endometritis	81	5.4
Complex Endometrial Hyperplasia	17	1.1
Proliferative Endometrium	377	25.3
Secretory Endometrium	547	36.7
Insufficient Material	58	3.9
Endometrial Adenocarcinoma	3	0.2

The distribution of the histopathologic diagnosis according to age group is summarized in table 2. There is no statistically significant difference between the distribution of the diagnoses according to the age groups (p:0.001; $p<0.01$). The rate of observation of simple endometrial hyperplasia in 40-51 years group is significantly higher than in 19-39 years group (p:0.020; $p<0.05$). The rate of observation of irregular proliferative endometrium in 19-39 years group is significantly higher than in 40-51 years group (p:0.004; $p<0.01$). The rate of observation of secretory endometrium in 19-39 years group is significantly higher than in 40-51 years group (p:0.003; $p<0.01$). There is no statistically significant difference between the distribution of the other diagnoses according to the age groups ($p>0.05$).

The distribution of parity according to the age groups is

Table 2: Evaluation of the diagnoses according to age groups

	19-39 Years n (%)	40-51 Years n (%)	p
Simple Endometrial Hyperplasia	24 (%43)	69 (%7.4)	0.020*
Irregular Proliferative Endometrium	36 (%6.4)	101 (%10.9)	0.004**
Endometrial Polyp	56 (%10)	123 (%13.3)	0.060
Endometritis	36 (%6.4)	45 (%4.9)	0.196
Complex Endometrial Hyperplasia	4 (%0.7)	13 (%1.4)	0.338
Proliferative Endometrium	152 (%27)	225 (%24.3)	0.219
Secretory Endometrium	233 (%41.5)	314 (%33.9)	0.003**
Insufficient Material	21 (%3.7)	37 (%4.0)	0.815

*Chi-Square Test and Continuity (yates) correction have been used. *p<0.05,**p<0.01*
Note: 3 cases with endometrial adenocarcinoma diagnoses have been excluded from the comparison. In 40-51 years age group 3 (0.3%) cases have been diagnosed with endometrial adenocarcinoma.

summarized in table 3. The parity number of cases of 40-51 years group was significantly higher than the 19-39 years group (p:0.001; p<0.01).

Table 3: Parity evaluation according to the age groups

	Parity		p
	Ave ± SS	Median	
19-39 Years	3.80±2,27	4	0.001**
40-51 Years	5.75±2,94	6	

Mann-Whitney U Test ***p<0.01*

Discussion

Abnormal uterine hemorrhages are observed as menorrhagia, metrorrhagia, menometrorrhagia, polymenorrhea and postmenopausal hemorrhages. In early adolescent and perimenopausal period, the frequency of these hemorrhages increases. Abnormal uterine hemorrhages are associated to various causes such as iatrogenic, hormonal, systemic, organic causes etc. Most importantly, these hemorrhages may be the sign of endometrial cancer or pre cancer endometrial hyperplasia. Thus, endometrial sampling is performed on patients applying for such reasons to determine endometrial cancer and pre cancer endometrial hyperplasia.

In our study, the average age of the patients was 40.75±7.18 years and parity average was 5.01±2.87. The most frequent histopathologic observations in both groups were proliferative and secretory endometrium. The distribution of these observations was as follows: 74.9% in the 19-39 years group and 69.1% in the 40-51 years group. These results are similar to those of Adewole et al. and Idrisa et al.[8-9] In a study of Kucur et al. on 744 cases series, the most frequent reported histopathologic observations were secretory and proliferative endometrium with 72.8% and were similar to our results.[10]

When considering the endometrial polyp, the prevalence varies between 10-24% among women subjected to biopsy or hysterectomy and increases with age. Peak incidence is reached in the 5th decade and it decreases with menopause.[11-13] In a study of Abdullah et al.[14] the frequency of polyp was 7.9%; with 5.6% in 19-39 years subgroup (n=700) and 10.2% in 40-51 years group (n=735). Savelli et al.[15] have also found similar. In our study, this rate was 12%, with 10% in the 19-39 years group and 13.3% in the 40-51 years group and has shown an increase with age. Although the increase of endometrial polyp with age is similar to the results of Abdullah et al.[14] the rate of endometrial polyp obtained in our study is higher than both studies but is conform to the rates given in literature.

Kucur et al.[10] have reported the endometritis frequency as 3.2% in their study. Khare et al.[16] reported it as 6.4%, while Jetley et al.[17] reported it as 9.1%. In the study of Abdullah et al.[14] this value was 6.7%, with 7.2% in the 40-51 years group and then 6.3% in the 19-39 years group. In our study, the endometritis rate was 5.4%, with 6.4% in the 19-39 years groups and 4.9% in the 40-51 years group. The rate we obtained is similar to those of Khare et al.[16] and Abdullah et al.[14] but lower than those of Jetley et al.[17]

The frequency of endometrium cancer increases with age. In a study of Abdullah et al.[14] on 1435 premenopausal patients, the frequency of endometrium cancer was defined as 0.9%, with 0.3% in the 19-39 years group and 1.5% in the 40-51 years group.[14] In a study of Kucur et al.[10] this rate has been defined as 0.3% in 673 patients (with an age interval of 29-51). In our study, this rate was 0.2%, with 0% in the 19-39 years group and 0.3% in the 40-51 years group. The results we obtained are lower than those of the studies mentioned above. In our region, the rate of fertility is high and the average parity of our patients is 5.01±2.87. This rate may be the cause of the low endometrium cancer frequency. In a study of Pınar et al.[18] it has been proposed that the risk of endometrium cancer is 2-3 times higher in nulliparous compared to multiparous women. This study supports our data.

The pre cancer endometrial hyperplasia reach peak incidence at the 5th and 6th decades.[19-20] In a study of Abdullah et al.[14] on 1435 premenopausal patients, the rate of observation of simple endometrial hyperplasia is 7.3%, with 4% in the 19-39 years group and 10.5% in the 40-51 years group. In the study of Kucur et al.[10] this rate has been reported as 9.5% in 673 premenopausal cases. In our study, the rate of simple endometrial hyperplasia was 6.2%; with 4.3% in 19-39 years subgroup and 7.4% in 40-51 years group. When considering complex endometrial hyperplasia, Abdullah et al.[14] reported this rate as 1.9%, %, with 1.5% in the 19-39 years group and 2.3% in the 40-51 years group. This rate has been reported as 0.4% in premenopausal patients in the study of Kucur et al.[10] In our study, the rate of complex endometrial hyperplasia was 1.1%; with 0.7% in 19-39 years subgroup and 1.4% in 40-51 years group. The rates of endometrial hyperplasia we obtained are similar to both studies mentioned above and the frequency increases with age. As the atypical type of endometrial hyperplasia is not stated in our study, no comparison has been performed. The absence of evaluation for atypical type is one of the limitations of our study.

When considering the insufficiency of material, Abdullah et al.[14] Have reported this rate as 6.7% in a study performed on 1435 premenopausal patients while Çakmak et al.[21] reported a rate of 8.6% in their study on 312 premenopausal patients. In our study, this rate was 3.9%. This rate is lower than both studies mentioned above.

Results

Endometrial sampling is important in patients applying for abnormal uterine hemorrhages. In premenopausal cases, functional endometrial modifications are the most frequent observations. Endometrium cancer, endometrial polyp and pre-can-

cer endometrial hyperplasia increase with age. High parity rates are supposed to decrease the risk of endometrium cancer.

Premenopozal Anormal Uterin Kanamalı Olgularda Endometriyal Örnekleme Sonuçlarımız: 1492 Olgunun Analizi

ÖZET

AMAÇ: Anormal uterin kanama nedeniyle endometriyal örnekleme yapılan premenopozal olgularda histopatolojik doku tanılarının değerlendirilmesidir.

GEREÇ VE YÖNTEM: Diyarbakır Kadın Doğum ve Çocuk Hastalıkları Hastanesinde anormal uterin kanama nedeniyle Ocak 2013 - Aralık 2013 tarihleri arasında endometriyal örnekleme yapılan premenopozal 1492 olgunun sonuçları retrospektif olarak değerlendirildi. Adelosanlar çalışma dışında bırakıldı.

BULGULAR: Olguların yaşlarının ortalaması 40,75±7,18 yıl ve parite ortalaması 5,01±2,87'dır. Olguların 562'si(%37,7) 19-39 yaş grubunda iken, 930'u (%62,3) 40-51 yaş grubundadır. Olguların 547(%36,7) sekretuar endometriyum, 377(%25,3) proliferatif endometriyum, 179(%12) endometriyal polip, 137 (%9,2) düzensiz proliferatif endometriyum, 93 (%6,2) basit endometriyal hiperplazi, 81 (%5,4) endometrit, 58(%3,9) olgunun yetersiz materyal, 17(%1,1) kompleks endometriyal hiperplazi ve 3 (%0,2) endometrial adenokarsinom tanısı aldığı görülmüştür.

SONUÇ: Pre-menopozal olgularda en sık fonksiyonel endometrial değişiklikler izlenmektedir. Endometrim kanseri, endometriyal polip ve pre-kanseröz endometriyal hiperplaziler yaş ile beraber artış göstermektedir. Yüksek parite oranları endometriyum kanser riskini azaltıyor gözükmektedir.

Anahtar Kelimeler: Anormal uterin kanama, Premenopoz, Histopatolojik tanı

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