

Histopathological Analysis of Endometrial Biopsies From Women With Abnormal Uterine Bleeding

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Abstract: Background: Histopathological evaluation of endometrial samples is essential in the diagnosis of abnormal uterine bleeding. The abnormal bleeding can be caused by a wide variety of disorders and it is one of the commonest complaints leading to endometrial sampling. This study was carried out to assess the patterns of endometrial histological findings in women with abnormal uterine bleeding (AUB) and to correlate these findings with clinical features. **Materials and Methods:** One thousand and nine hundred fifty six patients with diagnosis of abnormal uterine bleeding underwent endometrial sampling in Duhok city during a period extended from January 2013 to December 2014. The slides stained with Hematoxylin and Eosin stain were studied. **Results:** The predominant endometrial histopathological finding was pregnancy related lesion (Retained products of conception) 403 cases (20.6%) followed by secretory endometrium 363 cases (18.5%). Malignant lesions were more common in patients aged 40 years and more and they were comprised 9 cases (0.4%) of all cases. Endometritis was least finding 29 cases (1.8%) followed by endometrial carcinoma 9 cases (0.4%). **Conclusions:** Histopathological examination of endometrium should be done in women presenting with abnormal uterine bleeding to rule out non neoplastic specially the retained products of conception, hyperplasia and malignant lesions. Around 40% of endometrial biopsy revealed absence of pathological findings which reflects the high incidence of extrauterine causes of abnormal uterine bleeding. Pregnancy related lesions were the highest among organic findings which highlight the needs for more perinatal care.

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Keywords: Endometrium, bleeding, uterus, hyperplasia, proliferative, secretory and carcinoma.

Introduction:

Abnormal uterine bleeding (AUB) is measured one of the most common problems in medicine and expand from a pattern observed during a normal menstrual cycle or after menopause⁽¹⁾.

Initial evaluation for abnormal uterine bleeding is by endometrial sampling which is usually obtained by dilatation and curettage. It is a safe and cost effective procedure for detecting the underlying pathologies and other few lesions will escape the detections⁽²⁾.

Endometrial sampling should be considered in women over 35 years with menorrhagia, women between the age 18 and 35 years with AUB who have risk factors for endometrial malignancy or if AUB does not response to medical management⁽³⁾.

Histopathological examination of the submitted endometrial sample provides a tissue diagnosis for causes of abnormal vaginal bleeding which may be due to structural or functional causes⁽⁴⁾. Common structural causes include smooth muscle tumores, endometrial polyps, endometrial hyperplasia, endometrial carcinoma and complications of pregnancy⁽⁵⁾. The large group of functional disorders called as Dysfunctional uterine bleeding (DUB) can

only be diagnosed after exclusion of structural, iatrogenic, medications, psychological and systemic disorders by various diagnostic techniques^(6,7).

Aims Of Study:

1. To determine the endometrial pathologies and their frequencies in patients presenting with abnormal uterine

2. To correlate the underlying causes of abnormal uterine bleeding in women with various age groups.

Materials And Methods:

The study was conducted in the Central Laboratory/Directorate of Health, Duhok-Iraq, and specimens were retrieved from histopathology lab in Duhok during a period extended from January 2013 to December 2014. The paraffin embedded blocks (PEBs) of the patients containing the tissues were selected. Sections from the PEBs were obtained in a 4 microns thickness and to perform the Hematoxyline and eosin stain.

Results:

During a period of 2 years from January 2013 – December 2014, 1956 female patients were included in the study with median age of 37.1 years (range 15-88 years). The main finding of endometrial curettage was retained products of conception (403 cases= 20.6%) which reflect the high incidence of abortion in this locality. While the least diagnosis was endometrial carcinoma (9 cases= 0.40%). Inadequate curettage was seen in (40 cases= 2%). Endometrial polyps were found in (58 cases= 3.00%). Chronic endometritis was detected in 1.80%. Disordered

proliferative endometrium and hormone imbalance effect were (227 cases= 11.6%), (172 cases= 8.80 %) of endometrial biopsies respectively. All the pathologies assessed in present study are shown in (Table-1). Among all pathologies included in the study 790 cases (40.4%) of the cases revealed normal cyclic endometrium (Table-2). Regarding the main presentation and indication for endometrial biopsy; menorrhagia was the main feature followed by irregular vaginal bleeding (Table-3).

Table 1. Histopathologic distribution of endometrial biopsies.

Pathology	No. Of cases	(%)	Mean age= Years
RPOC	403	20.60%	32.0
Secretory	363	18.55%	37.0
Proliferative	316	16.20%	36.4
Disordered proliferative phase	227	11.60%	41.6
Hormone imbalance effect	172	8.80%	39.3
Menstrual	111	5.55%	40.0
In active endometrium	92	4.70%	46.5
HM	79	4.00%	29.0
Inadequate	40	2.00%	39.7
Endometrial polyp	58	3.00%	44.7
Endometrial hyperplasia	57	2.80%	41.0
Chronic endometritis	29	1.80%	36.6
Endometrial carcinoma	9	0.40%	46.7
Total	1956	100%	37.1

RPOC: Retained Products Of Conception

Table 2. Distribution of normal and abnormal endometrial findings

Histological findings	No. Of cases	N0.= %
Normal cyclic endometrium (unremarkable)		790= 40.4%
Secretory	363	
Proliferative	316	
Menstrual	111	
Pathological findings		1126= 57.6%
RPOC	403	
Disordered proliferative phase	227	
Hormone imbalance effect	172	
In active endometrium	92	
HM	79	
Endometrial polyp	58	
Endometrial hyperplasia	57	
Chronic endometritis	29	
Endometrial carcinoma	9	
Inadequate	40	40= 2.0%
Total	1956	1956= 100%

RPOC: Retained Products of Conception; HM: hydatidiform Mole

Hydatidiform mole pregnancies were (79 cases= 4.00%); with mean age 28.8 years. They include partial mole (20 cases=24.5%) and complete mole

(59cases= 75.5%) (Table-4). The endometrial cancer cases includes choriocarcinoma (2 cases= 22.2%) and adenocarcinoma (7cases= 77.8%) (Table-5).

Table 3. Clinical presentation of the patients and indication of endometrial biopsies

Main presentation	No.	%
Menorrhagia	1644	84.0%
Irregular vaginal bleeding	129	6.60%
Endometrial polyp	89	4.55%
Infertility	49	2.55%
Dysmenorrhea	30	1.55%
Oligomenorrhea and amenorrhea	6	0.30%
Missed IUCD	4	0.20%
other	5	0.25%
Total	1956	100%

Table 4. Types of hydatidiform mole

Types of hydatiform mole	(no.= 79) %	Mean age= years
Partial mole	24.5%	26.8
Complete mole	75.5%	29.6
Total	100%	28.8

Table 5. Types of endometrial carcinoma

Types of endometrial carcinoma	(no.= 9) %	Mean age= years
Choriocarcinoma	2= 22.2%	40
Adenocarcinoma	7= 77.8%	53.2
Total	9= 100%	46.7

Discussion:

Normal menstruation result of normal cyclic hormonal changes and it is defined as the bleeding from secretory endometrium – associated with an ovulatory cycle – not exceeding a length of 5-7 days. Any bleeding not fulfilling these criteria is referred to as an abnormal uterine bleeding⁽⁸⁾.

Abnormal uterine bleeding is a commonly encountered gynecological problems and it includes both dysfunctional uterine bleeding (DUB) and bleeding from structural causes like leiomyomas, endometrial polyps, endometrial carcinoma, and pregnancy complications. In DUB no organic cause is detected and endometrial curettage plays an important role in excluding organic uterine disorders^(9, 10).

Evaluation of the histological examination of the submitted endometrial tissue revealed various patterns and we found the most common histopathological pattern was retained products of conception 20.6% which could indicate high incidence of abortion, followed by secretory endometrium.

In this study organic causes were more 57.6% as compared with no pathological findings 40.4% whereas the inadequate biopsies represent 2% and this shows similarities to other studies⁽¹¹⁾.

Concerning the organic causes the pregnancy related conditions was the most common causes; similar finding was reported in other studies⁽¹²⁾

Disordered proliferative endometrium is common in the perimenopausal years because of anovulatory cycles. It refers to a proliferative phase endometrium that does not seem appropriate for any one time in the menstrual cycle⁽¹³⁾. In this study disordered proliferative endometrium was recorded to be 11.6% and this was in disagreement with 5.7% reported in literature⁽¹⁴⁾. This is due to peak effect of exogenous hormone as perimenopausal age group patients are usually receiving hormonal therapy for different menopause related complaints and that is why these findings were similar to others^(12,15).

We found hyperplasia in 2.80% patients with mean age 41. These figures are similar to some studies but different from others⁽¹⁶⁻¹⁹⁾.

Endometrial carcinoma is the most distressing cause of abnormal vaginal bleeding. In the current study it was 0.4% of the total and this shows agreement to some studies⁽¹⁴⁾ and disagreement to other studies⁽¹¹⁾.

Analysis of the clinical data revealed menorrhagia as the most common presenting complaint accounting for 84% and this was in concordance with the literature⁽¹⁴⁾.

Regarding molar pregnancy which constitutes 4% of the total which could be due to increased risk of hydatidiform mole pregnancies in the area. Most of the patients in this study were in their second and third decades of life, the period of maximum reproductive period. , it was difficult to calculate the incidence of hydatidiform mole in relation to different age and parity groups because the data of maternal age and parity for all the mothers delivered during the same period of time was not available. However, some studies showed an increase in the incidence of HM with falling maternal age below 20 years,^(20,21) while others report an increased risk in patients over 35 years^(22,23). Early marriage and early pregnancy are usual in women our locality.

Conclusions:

Endometrial curetting and biopsy is an important diagnostic procedure in evaluation of AUB. Endometrial causes of uterine bleeding are age related where pregnancy related lesions were around age 30 years while hyperplasia and carcinoma were above age of 40 years. Around 40% of endometrial biopsy revealed absence of pathological findings which reflects the high incidence of extra uterine causes of AUB while abortion related causes was the frequent finding which indicated the high rate of abortion and needs further study and evaluation regarding the causes and perinatal care.

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