

Histopathological Pattern of Endometrial Sampling in Abnormal Uterine Bleeding

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Abstract:

Background and Objective: *Abnormal uterine bleeding is a challenging gynecological problem caused by various endometrial pathologies. The present study aims to delineate the frequency and pattern of uterine lesions which result in abnormal uterine bleeding (AUB) in a various age groups, and to compare the result with other similar studies.*

Materials and Methods: *One hundred and seventy eight endometrial samples from women presenting with abnormal uterine bleeding from January 2014 to December 2014 were retrieved and analyzed in the Department of Cytology & Histopathology, Omdurman Military Hospital- Khartoum- Sudan. The specimens were routinely sectioned and stained with hematoxyllin and eosin.*

Result: *The histopathological diagnosis was secretory endometrium 28 (15,7%), and proliferative endometrium 17 (9.5%), endometrial polyp 27 (15.2%), disordered proliferative endometrium 22 (12.4%), simple cystic hyperplasia 5 (2,8%), chronic endometritis 10 (5.6%), uterine malignancies 16 (8.9%), complex hyperplasia with*

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atypia 1 (0.5%). Pregnancy related conditions: ((Products of conception, Molar pregnancy - Partial and Complete)), 32(17,9%) and 20 (11.2%) revealed no endometrial tissue and were considered insufficient for diagnosis.

Conclusion: *The present study revealed that Pregnancy related conditions are the most common organic endometrial histopathological patterns where secretory and proliferative endometrium are most common functional disorders and adenocarcinoma of endometrium are of considerable importance in endometrial samples .*

Key words: Histopathological Pattern, Endometrial Sampling, Abnormal Uterine Bleeding

Introduction:

Abnormal uterine bleeding (AUB) is defined as any bleeding that does not correspond with the frequency, duration or amount of blood flow of a normal menstrual cycle^(1,2,3,4,5). It is a common gynaecologic problem and the principal reason for gynaecological consultation^(6,7,8,9) accounting for up to (20%) of office visits to gynaecologists^(9,10). It is a symptom and not a disease that occurs in different patterns ^(11,12). The causes of Abnormal Uterine Bleeding can be categorized into two broad categories:

I-Organic causes: such as genital tract infections, tumors (benign or malignant), adenomyosis, conception, systemic disorders and iatrogenic^(1,10,11).

II-Dysfunctional uterine bleeding: caused by novulation or oligoovulation^(2,10,13).

Postmenopausal Bleeding (PMB) is defined as that uterine bleeding which occurs after (12) months of the last menstrual period^(14,15,16) .It is an important symptom which requires

careful and prompt evaluation, because it may be a symptom of endometrial neoplasia (15,17,18).

The most common methods of endometrial sampling in current clinical use are⁽¹⁹⁾ :

- 1-Diagnostic dilatation and curettage (D&C).
- 2-Endometrial biopsy.
- 3-Hysteroscopy.

Method:

It is a retrospective study done in the Department of Histopathology of Omdurman Military Teaching Hospital, Khartoum, Sudan. This study was carried out over a period from January 2014 to December 2014. One hundred and seventy eight patients with abnormal uterine bleeding admitted for endometrial sampling were included in this study. Endometrial specimens obtained by curetting in (157) patients, while the remaining specimens (21) obtained by hysterectomy. The endometrial specimens were received in 10% formalin solution. The tissues were processed, sectioned and stained with hematoxyllin and eosin.

The patients were divided into the following age group: adolescents (less than 40 years), women of latter reproductive age or perimenopausal age (40-55 years), and lastly postmenopausal women (55 years and older). The software used for data analysis is SPSS Version 16.

Result:

A total of 178 histopathological specimens were received during the study period. Out of 178 endometrial specimens submitted with the diagnosis of AUB. In the adolescence age group there were 86,58 and 34 samples from patients under the age of 40, (40-55) and above 55 years of age respectively.

The histopathological diagnosis was secretory endometrium 28 (15.7%) In age group less than 40 years 20 (11,2 %) and 8 patients (4,49%) in the age (40-55). Proliferative endometrium 17 (9.5%), In the age group less than 40 years 10 (5,6 %), 7 (3,9%) in the age between 40 -55 years. Pregnancy related conditions: Products of conception, Molar pregnancy - Partial and Complete. Representing 32 (17,9 %) all in the age group less than 40 years. disordered proliferative endometrium, pill endometrium and irregular shedding was seen in 22 (12,4%). In age group less than 40 years 2 (1,12 %) and 18 patients (10,1%) in the age between 40 -55 years and 2 patients (1,12%) more than age 55 years.

The endometrial polyp 27 (15.2%), In the age group less than 40 years 6 (3,3 %), 7 (3,9%) in the age between 40 -55 years and 14 (7,8%) in the age more than 55 years. chronic endometritis 10 (5.6%), in the age less than 40 years 8 (4,4%) and 2 (1,1 %). simple cystic hyperplasia 5 (2.8%) In the age group less than 40 years, 2 (1,12 %), 2 (1,12) in the age between 40 -55 years and 1 (, 56 %)more than 55years. complex hyperplasia with atypia in one patient (0,56 %) in the age more than 55 years. Uterine malignancies 16 (8.95%) 14 in the age more 55 years (7.8%) and 2(1,2%) in the age between 40-55 years. No endometrial tissue or insufficient for diagnosis 20(11,2%), in the age less than 40 years 6(3,37%),12 (6,7) in the age between 40 -55 years and 2 (1,12 %) more than 55years. See table 1. (0.54%).

Table 1: Histopathological Diagnoses of Endometrial Samples Obtained for Abnormal Uterine Bleeding

Histopathological Diagnoses	Less than 40 Years	40-55years	>55 years	Total
Secretory endometrium	20(11,23%)	8(4,5%)	0	28(15,7%)
Proliferative endometrium	10(5,6%)	7(3,9%)	0	17(9,5%)
Disordered proliferative	2(1,12%)	18(10,11)	2(1,12%)	22(12,4%)

endometrium				
Endometrial polyp	6(3,3%)	7(3,9%)	14(7,86%)	27(15,2%)
Chronic endometritis	8(4,49%)	2(1,12%)	0	10 (5,6%)
Simple(cystic) hyperplasia	2(1,12%)	2(1,12%)	1(0,56%)	5(2,8%)
Complex hyperplasia with atypia	0	0	1(0,56%)	1(0,56%)
Uterine malignancy	0	2(1,12%)	14(7,86%)	16(8,9%)
Pregnancy related problem	32(17,9%)	0	0	32(17,9%)
Insufficient for diagnosis	6(11,23%)	12(6,7%)	2(1,12%)	20 (11,2%)s

Discussion

In our study most common organic cause of bleeding was due to pregnancy related causes (17,9%). All the cases were in the age between 18- 40. This similar to study done by **Sandeepa** ²⁰ (24.1%). The next common cause among age groups >45 yrs age group was endometrial polyp 15,2% which is consistent with other studies carried out by Mirza ²¹ with other 12%, and Rifat ²² 10,4% less in other studies such as study done by Pudasaini S ²³ (1.3%) and Wahda²⁴ 6%. Endometrial hyperplasias is seen in **2,8%** simple cystic hyperplasia and one case of complex hyperplasia **0,56%** . This is consistent with other studies carried out by Layla²⁵ 4% simple cystic hyperplasia, but lower than study carried by Mirza ²¹ 30% et. Mogal ²⁶ , (11.1%) and by Anwer ²⁷ (62.8%).

The present study shows that the detection rate of endometrial carcinoma increase with increasing age 16 (8,9%) 2 out of patients in the age between 40-55 years old with median age 45 years , 14 (7,86 %) after 55years old with median age 62,8 years old.

Our result showed 16 (8,9%) and all cases were mainly endometrioid adenocarcinoma with the mean age of 56.7 years.

In a study done by Dangal G in Chithwan ²⁸ in 2003 showed the incidence of endometrial cancer in the postmenopausal group was 17.6%. In other study done by Pudasaini ²³ showed that the incidence of endometrial cancer was 21% and Anwer ²⁷ (15.8%). On other side the frequency of malignancy was low in study done by Mirza²¹ 5% and was detected in Wahda ²⁴ 3.9% of cases. **Sandeepa** ²⁰ showed that uterine malignancy was 1.1 % , Muzzaffar ²⁹ (0.4%) .

Our study revealed organic causes especially malignancy increased with increasing age this is quite similar to Dangal studies²⁸, most probably consistent with unopposed estrogenic effects in later years. Malignant neoplasm are relatively common causes of postmenopausal bleeding with endometrial carcinoma being involved in **14(7,86%)** out of 16 patients.

Other factors increasing this incidence of endometrial carcinoma in Sudan that most females coming late in their presentation.

In the present study chronic non-specific endometritis was detected in 10 (5.6%) of cases. With more common cases in the age less than 40 years 8(4,4%). This finding is in consistent with other studies Layla²⁵ 5,8%, Pudasaini 2,7% Rifat 8.4%) and Zeeba (6.11%)²⁹ but lower in study done by Mirza 13%. Chronic endometritis due to specific infection like tuberculosis was not detected in any patients.

Our study revealed that the most common causes of abnormal endometrial histopathological patterns in reproductive ages groups were secretory and proliferative endometrium, 28 (15,7 %),and 17 (9,55%) respectively this consistent with study done in by Layla showed that (secretory and proliferative endometrium as(24.9%) and (21.7%) , also this finding is similar to other studies 5,6 .

Unsatisfactory for evaluation:

There have been very little publications about the criteria for considering an endometrial specimen as adequate or inadequate. In our study we had 20 (**11,2%**) of unsatisfactory samples, with >50% being over 40 years . Most of these showed only large areas of hemorrhage and scanty glands or stroma. These were labeled unsatisfactory to report and the clinician was advised to repeat biopsy if clinically indicated.

Conclusion

The present study revealed that secretory and proliferative endometrium are the most common endometrial histopathological patterns in endometrial samples obtained for abnormal functional bleeding in younger ages.

Ethical Approval: Karary University, College of Medicine, Research Ethics Committee

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