

ABNORMAL UTERINE BLEEDING: CLINICO-HISTOPATHOLOGICAL SPECTRUM AND CORRELATION



Pathology

KEYWORDS: Abnormal Uterine Bleeding, endometrial biopsy, menorrhagia

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ABSTRACT

Background: Abnormal Uterine Bleeding (AUB) is considered one of the most common and challenging problems presenting to the gynecologists and accounts for as many as one third of all outpatients. **Material and**

Methods: A prospective study comprising 440 cases of endometrial lesions in women of all age groups in Western Rajasthan presenting with AUB were studied with respect to age, clinical presentations, histopathological features and the definitive diagnosis of cause of AUB is done by reviewing and studying the histopathological slides. **Results:** The mean age of women presenting with AUB was 41 years and menorrhagia was the most common clinical presentation. The most common histopathological finding was normal physiological changes of menstrual cycle, seen as proliferative and secretory phase of endometrium in 70.50% cases, followed by benign lesions in 22.3% cases, malignant lesions in 5.5% cases and precursor lesions in 1.8% cases. Most common lesion of endometrium was simple endometrial hyperplasia comprising 65 cases.

Conclusion: Abnormal uterine bleeding in perimenopausal women is most commonly dysfunctional in origin. There is an age specific association of endometrial lesions presenting with AUB. Diagnostic curettage or endometrial biopsy is mandatory without delay in all cases of perimenopausal and postmenopausal bleeding to rule out malignancy.

Introduction

Any deviation in terms of cycle, duration of bleeding, amount of blood loss or combination of all, is called Abnormal Uterine Bleeding.^[1] It includes both dysfunctional uterine bleeding and bleeding from structural causes like fibroids, polyps, endometrial carcinoma and pregnancy complications.^[2]

In premenopausal women, it may be due to pregnancy, cancer of cervix or the endometrium, inflammatory conditions of the cervix or endometrium, clotting disorders or medical illnesses. In women with menopausal transition, abnormal uterine bleeding may be due to hormonal changes, endometrial polyps or endometrial hyperplasia.

Diagnostic techniques available for evaluation of abnormal uterine bleeding include endometrial biopsy, dilation and curettage and ultrasonography.^[3] Histological characteristics of endometrial biopsy as assessed by light microscopy remain the gold standard for the clinical diagnosis of endometrial pathology.^[4] Endometrial hyperplasia and cancer are higher in peri and postmenopausal women while in younger age groups, changes related to hormonal effects seem to be more common.^[5] AUB may be the symptom of endometrial carcinoma in 8-50% of cases.^[6]

There is a proposed classification for causes which can result in AUB as approved by the FIGO Executive Board as a FIGO classification system. There are 9 main categories, which are arranged according to the acronym PALM-COEIN: polyp; adenomyosis; leiomyoma; malignancy; and hyperplasia; coagulopathy; ovulatory dysfunction; endometrial causes; iatrogenic; and not yet classified. In general, the components of the PALM group are discrete (structural) entities that can be measured visually with imaging techniques and/or histopathology, whereas the COEIN group is related to entities that are not defined by imaging or histopathology (non-structural).^[7]

Aim

The aim of the study is to correlate the histopathological patterns of endometrium in abnormal uterine bleeding in all age groups from the perspective of integrating the appropriate clinical and histopathological informations.

Material and methods

The present study is prospective study of 440 cases of endometrial lesions in women of all age group in Western Rajasthan and was

carried out between August 2012 to December 2014 in the Department of Pathology at Sardar Patel Medical College, Bikaner and associated hospital.

The definitive diagnosis of cause of AUB is done by reviewing and studying the histopathological slides, prepared through routine processing channels which include fixation in 10% formaline for 24 hours, grossing, tissue processing in automated tissue processor, dehydration, paraffin embedding, cutting of sections at 3 to 5 micron thickness and staining with hematoxyline and eosin stain. The H and E slides were seen under low power and high power. The observations were recorded and interpreted: nuclei- blue, cytoplasm- various shades of pink, RBC- orange.

All endometrial biopsies done for patients presenting with AUB in any age group were included.

Results

Majority of the patients who presented with abnormal uterine bleeding were in the perimenopausal (41-50 years) age group followed by 31-40 years and the mean age of women presenting with abnormal uterine bleeding was 41 years. Menorrhagia was the most common clinical presentation in this study followed by metrorrhagia, menometrorrhagia, post menopausal bleeding. In adults (<50 years), menorrhagia was found to be the most common clinical presentation and after 50 years of age, post menopausal bleeding was predominant clinical presentation.

Normal physiologic changes of menstrual cycle, seen as proliferative and secretory phase of endometrium, were the most common histological findings present in 70.50% cases (316 cases). Benign lesions were found in 22.3% cases followed by malignant lesions in 5.5% cases and precursor lesions in 1.8% cases. Various histopathological patterns in total number of cases of AUB are summarized in Table 1.

Table 1: Various histopathological patterns in AUB patients

S. No.	Histopathological patterns	No. of cases (n)	%age
1	Proliferative phase	245	55.7
2	Secretory phase	65	14.8
3	Chronic nonspecific endometritis	14	3.2

4	Endometrial polyp	13	3.0
5	Simple endometrial hyperplasia	65	14.8
6	Simple atypical endometrial hyperplasia	4	0.9
7	Atrophic phase	6	1.4
8	Complex endometrial hyperplasia	4	0.9
9	Carcinoma of endometrium	24	5.45
	Total	440	100

Out of 316 cases of functional causes, 245 cases were in proliferative phase (Figure. 1) followed by secretory (65 cases) and atrophic phase (6 cases). Most common lesion of endometrium was simple endometrial hyperplasia comprising 65 cases (Figure. 2).

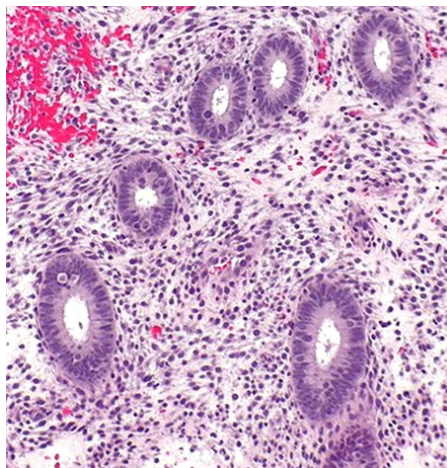


Figure 1- Proliferative endometrium. (H&E, low power).

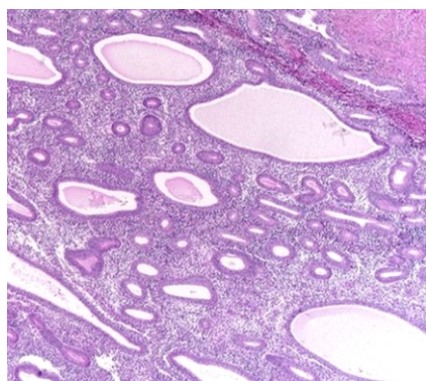


Figure 2- Simple endometrial hyperplasia (without atypia). Glands are mildly crowded and some are cystically dilated (H&E, low power).

In the present study, both functional causes and organic lesions were most common in perimenopausal (41-50 years) age group followed by 31-40 years of age. Functional causes were predominant up to 50 years of age group and precursor lesions were most common in perimenopausal age group. After 60 years of age malignant lesions were found predominantly. Among 24 malignant lesions of the endometrium, adenocarcinoma of endometrium was found in 21 cases, squamous cell carcinoma in 3 cases.

Patients who presented with postmenopausal bleeding had proliferative phase in 41.28% cases, malignancy in 5.45% cases followed by simple endometrial hyperplasia in 10% cases and endometrial polyp in 5% cases.

Patients who presented with menorrhagia had functional causes in majority. Patients who presented with menometrorrhagia also had functional causes in majority (85.36%) of cases followed by simple endometrial hyperplasia (10.97%) and carcinoma endometrial polyp (3.65%). In Patients with metrorrhagia, functional causes were in majority (61.89%) followed by simple endometrial hyperplasia

(28.57%), simple atypical endometrial hyperplasia (41.6%) and chronic nonspecific endometritis (8.33%).

Discussion

The term abnormal uterine bleeding has been used to describe any bleeding not fulfilling the criteria of normal menstrual bleeding. The most likely etiology of AUB relates to the patient's age as to whether the patient is perimenopausal or postmenopausal. The youngest patient in the present study was an eighteen year old girl and the oldest was a 75 year old lady. Newborn girls may have spotting within first few days of life because of withdrawal from high level of maternal oestrogen, which had stimulated the endometrium in utero.

The general pattern of abnormal uterine bleeding observed at our centre is comparable with the distribution of patterns of abnormal uterine bleeding reported from other studies.

Abnormal uterine bleeding predominantly affects women of perimenopausal (41-50 years) age group because of increased incidence of intrauterine lesions. Both types of abnormal uterine bleeding (organic lesions and dysfunctional) were most common in perimenopausal (41-50 years) age group i.e. 40.50%, 35.48% respectively. In my study 40.50% cases were in perimenopausal (41-50 years) age group and 34.17% cases were in 31-40 years age group. This study is comparable with Muhammad Muzaffar et al^[8] comprising 48.1% and 39.2% in perimenopausal and 31-40 years age group respectively. Study by Saraswathi Doraiswami et al^[9] showed similar results with majority of cases (33.5%) in perimenopausal (41-50yrs.) age group. Layla S Abdullah et al^[10] also showed 32.03% patients in perimenopausal age group.

In our study, the mean age of women presenting with abnormal uterine bleeding was 41 years which is comparable with Upadhyaya I et al^[11] (mean age-43.15) and Dasgupta Subhankar et al^[12] (mean age-46.2 years).

Common bleeding patterns in my study were found to be menorrhagia 40.5%, menometrorrhagia 18.6% and metrorrhagia 19.1% followed by postmenopausal bleeding 18.0%, polymenorrhagia 2.5% and oligomenorrhagia 1.4%. Bleeding patterns were comparable with Muhammad Muzaffar et al^[8] comprising menorrhagia 51.9% and metrorrhagia 35.4%. Study by Dr.Sarwat Ara^[13] showed similar results comprising menorrhagia 49.06%, metrorrhagia 39.13% followed by postmenopausal bleeding 6.83% and polymenorrhagia 3.12%. Upadhyaya I et al^[11] found that main symptom of abnormal uterine bleeding was menorrhagia (57.55%) followed by metrorrhagia (33.96%), polymenorrhagia 6.60% and 1.89% women had menometrorrhagia.

Predominant number of cases in this study showed normal physiologic phases such as proliferative, secretory and atrophic menstrual pattern. The bleeding in the proliferative phase may be due to anovulatory cycles and bleeding in the secretory phase is due to ovulatory dysfunctional uterine bleeding.

Conclusions

Abnormal uterine bleeding in perimenopausal women is most commonly dysfunctional in origin. There is an age specific association of endometrial lesions. Carcinoma of the endometrium occurs with increasing frequency with increasing age. In perimenopausal women, AUB is most commonly dysfunctional due to hormonal imbalances and in reproductive age group, one should first rule out complications of pregnancy.

5.5% cases had malignant disease in present study. This shows the importance of doing curettage and biopsy. Diagnostic curettage or endometrial biopsy is mandatory without delay in all cases of perimenopausal and postmenopausal bleeding to rule out malignancy. Organic diseases of the genital tract may be missed even by curettage. The sensitivity in detecting intrauterine pathology by curettage is 94-97%.

It is therefore, important in all cases of recurrent or severe abnormal bleeding to perform a repeated curettage.

Histopathological examination of endometrial biopsy is a major diagnostic tool in evaluation of AUB and a specific diagnosis could help the gynecologist to plan therapy for successful management of AUB.

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