

Endometrial Histopathology in Abnormal Uterine Bleeding: A Retrospective Analysis

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ABSTRACT

Introduction: Abnormal uterine bleeding (AUB) is a very common gynaecological condition that affects women of all age groups. Majority of the cases are diagnosed by sampling the endometrium by procedure like dilatation and curettage (D and C). The aim of this study was to analyse the different types of endometrial histopathology of patients with the abnormal uterine bleeding and to find the association between various patterns of abnormal uterine bleeding and histopathological findings.

Methods: This was a retrospective study carried out in the Department of Obstetrics and Gynaecology of Shree Birendra Hospital, Chhauni, Kathmandu over a period of two years from August 2018 to August 2020. All cases of AUB who underwent D and C procedure were included in the study. Data was entered in Microsoft excel and managed in SPSS Version 21. Analysis was done in the form of percentage and proportion and represented as tables where necessary.

Results: Total 192 patients were analysed. Age group ranged from 21 to 75 years and most common age group presenting with AUB was 41 to 50 years. The most common presenting complaint was menorrhagia 47.9% (92/192) followed by metrorrhagia 19.8% (38/192). Most common endometrial histopathology was proliferative endometrium 33.3% (64/192), followed by secretory endometrium 21.9% (42/192). Endometrial malignancy was found in 1.5% (3/192) cases.

Conclusions: Histopathological examination of the endometrium showed a wide spectrum of pathological changes ranging from normal endometrium to malignancy. This emphasises the importance of endometrial sampling like D and C as an important diagnostic tool in the management of abnormal uterine bleeding.

Key words: abnormal uterine bleeding; dilatation and curettage; histopathology

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INTRODUCTION

Normal menstruation is defined as the bleeding from secretory endometrium associated with an ovulatory cycle, not exceeding a length of five days. Any bleeding not fulfilling these criteria is referred to as Abnormal Uterine Bleeding (AUB).¹ AUB is a very common gynaecological condition that affects all age groups. One third of patients attending gynaecology OPD presents with complaints of AUB. It occurs in various forms such as menorrhagia, polymenorrhea, polymenorrhagia and metrorrhagia.^{1,2} AUB is defined as any variation from the normal menstrual cycle, including alterations in its regularity, frequency, heaviness of flow, duration of flow and the amount of blood loss.³ AUB can be divided into acute and chronic on the basis of onset and duration. According to The International Federation of Gynaecology and Obstetrician (FIGO), acute AUB is defined as an episode of bleeding in a women of reproductive age who is not pregnant, that is of significant quantity to require immediate intervention to prevent further blood loss where as chronic AUB is the bleeding from the uterus that is abnormal in duration, volume and / or frequency and has been present for the majority of the last six months.⁴

FIGO working group on menstrual disorders has developed a classification system, PALM-COEIN, for cases of AUB in non-pregnant women of reproductive age. The classification system is divided into nine categories, that are arranged to the acronym PALM-COEIN: Polyp, Adenomyosis, Leiomyoma, Malignancy and hyperplasia, Coagulopathy, Ovulatory disorder, Endometrial, Iatrogenic and Not classified.⁵

Majority of these lesions are diagnosed by sampling the endometrium which could be effectively used as the first diagnostic step in AUB. The endometrial sample provides a tissue diagnosis for wide range of morphologic patterns resulting from both normal and abnormal changes. There are several methods for endometrial sampling like endometrial biopsy, hysteroscopy, dilatation and curettage. Dilatation and Curettage (D and C) is considered to be a method of choice. D and C is a useful and cost effective method. It serves as a standard tool for assessing patients of AUB mostly in developing countries with limited resources.⁶⁻⁸ The aim of this study was to analyse the different

types of endometrial histopathology of patients with the abnormal uterine bleeding and to find the association between various patterns of abnormal uterine bleeding and histopathological findings.

METHODS

This was a retrospective study carried out in the Department of Obstetrics and Gynaecology of Shree Birendra Hospital, Chhauni, Kathmandu, Nepal over a period of two years from August 2018 to August 2020. Our institute is a tertiary care referral centre for Nepal Army personnel and their dependents. The study was initiated after taking approval from Institution Review Board (IRB). Patients who presented with abnormal uterine bleeding and underwent D and C procedure were included in the study. Patients who were on hormonal therapy, pregnant patients with bleeding etc were excluded from the study. Data regarding the age, presenting complaints, procedure done and the histopathological reports were retrieved from the medical records and were recorded in the structured performa. Histopathological findings were correlated with clinical presentation of the patients. Statistical package for social sciences (SPSS-Version 21) was used to carry out the statistical analysis of data. The analysis was done in the form of percentages and proportions and represented as tables.

RESULTS

In this study, total of 192 patients were analysed. Patient's age ranged from 21 to 75 years. Maximum number of patients with AUB presented in the age group of 41 to 50 years followed by 51 to 60 years (Table 1).

The most common clinical presentation was menorrhagia in 47.9% (92/192), followed by metrorrhagia 19.8% (38/192), polymenorrhagia 15.6% (30/192), postmenopausal bleeding 10.4% (20/192) and polymenorrhoea 6.3% (12/192) (Table 2).

Most common histopathology was proliferative endometrium 33.3% (64/192), followed by secretory endometrium 21.9% (42/192). Endometrial adenocarcinoma was present in 1.5% (3/192) cases (Table 3).

We tried to study and correlate histopathology of endometrium with clinical presentations. In our

Table 1. Distribution of patients according to the age group

Age groups (years)	Patients (percentage)
21 - 30	7 (3.6%)
31 - 40	37 (19.3%)
41 - 50	98 (51.1%)
51 - 60	40 (20.8%)
61 - 70	4 (2.1%)
≥ 71	6 (3.1%)

study, menorrhagia (47.91%) was the commonest complaint and among them, histopathological findings showed proliferative endometrium in 45.6% (42/92) and secretory endometrium in 21.7% (20/92) cases. Endometrial carcinoma (1.5%) was presented as postmenopausal bleeding in three cases (Table 4).

DISCUSSION

Abnormal uterine bleeding is one of the commonest problems vexing the gynaecological patients and it has been determined that approximately 6% of women in reproductive age group visit OPD due to excessive menstrual loss every year.⁹ AUB is of concern because it may have medical and social repercussion as excessive bleeding may cause interference in daily activities and sexual life. AUB needs complete evaluation by the combination of

Table 3. Distribution of patients according to the histopathological findings

Histopathological pattern	Patients (percentage)
Proliferative endometrium	64 (33.3%)
Secretory endometrium	42 (21.9%)
Disordered proliferative endometrium	34 (17.7%)
Atrophic endometrium	5 (2.6%)
Endometrial hyperplasia without atypia	14 (7.3%)
Endometrial polyp	12 (6.3%)
Endometritis	6 (3.1%)
Endometrial adenocarcinoma	3 (1.5%)
Inadequate	12 (6.3%)

Table 2. Distribution of the patients according to the clinical presentation

Clinical presentation	Patients (percentage)
Menorrhagia	92 (47.9%)
Metrorrhagia	38 (19.8%)
Polymenorrhagia	30 (15.6%)
Postmenopausal bleeding	20 (10.4%)
Polymenorrhoea	12 (6.3%)

physical examination, ultrasound findings and histopathological diagnosis.¹⁰ Majority of AUB cases have benign pathology on histopathological evaluation. Thus histopathology of endometrium is an important parameter for a restrictive approach, in order to avoid unnecessary hysterectomies. Endometrial assessment is also important for the diagnosis of endometrial carcinoma and preneoplastic conditions, in which histopathology is 100% diagnostic and a gold standard investigation. It is also required in patients where bleeding is not improving after medical therapy.⁹

In our study, total of 192 endometrial samples of AUB patients were analysed. Maximum patients were in the age group of 41 to 50 years. In the study done by Anam Khan et al. and Kumari SR et al., highest incidence of AUB was found in the age group of 41 to 50 years which is similar to our study.^{11,12} Age was an important factor as the age advances, more progressive lesions were found in histopathology as compared to the reproductive age group.

The most common presenting complaint in present study was menorrhagia (47.9%) and results are comparable to the studies conducted by Sajitha K et al. (47%), Mitaili et al. (48.6%) and Lithingo et al. (49%).¹³⁻¹⁵ Metrorrhagia (19.8%) was the second most common presenting complaints in this study similar to the study done by Jairajupri ZS et al. (18%).¹⁶

In histopathological evaluation, the commonest diagnosis observed was proliferative endometrium in 64 cases (33.3%). Similar findings were also observed by Saera et al. (34.6%), Varun N et al. (35%) and Sujata J et al. (37.2%).¹⁷⁻¹⁹ Second leading endometrial change that we got was secretory endometrium, which was present in 42

Table 4. Distribution of patients according to clinical presentation and histopathological finding

Clinical features	Proliferative	Secretory	Disordered proliferative	Atrophic	Hyperplasia without atypia	Polyp	Endometritis	Carcinoma	Inadequate	Total
Menorrhagia	42 (45.7%)	20 (21.7%)	12 (13.1%)	-	10 (10.9%)	4 (4.3%)	4 (4.3%)	-	-	92 (100%)
Metrorrhagia	12 (31.6%)	8 (21%)	10 (26.3%)	-	-	3 (7.9%)	-	-	5 (13.2%)	38 (100%)
Polymenorrhagia	6 (20%)	8 (26.7%)	6 (20%)	-	4 (13.3%)	2 (6.7%)	-	-	4 (13.3%)	30 (100%)
Postmenopausal bleeding	4 (20%)	2 (10%)	2 (10%)	3 (15%)	-	3 (15%)	-	3 (15%)	3 (15%)	20 (100%)
Polymenorrhoea	-	4 (33.3%)	4 (33.3%)	2 (16.7%)	-	-	2 (16.7%)	-	-	12 (100%)

cases (21.9%) which was comparable to the study by Riju RD et al. (18.6%).²⁰ In regards to endometrial carcinoma, we had seen three cases (1.5%) in histopathological study. Similar findings have been seen in the past by various authors in India. Bolde et al. as well as Anupama Set al found similar result of 1.6% and Poonam S et al. demonstrated 1.4% of endometrial carcinoma in postmenopausal age group in their researches in India.²¹⁻²³

Histopathological study of endometrium in AUB patients is an important and a necessary investigation which should be routinely performed for the diagnosis of various endometrial patterns ranging from proliferative, secretory, hyperplasia and atrophic endometrium. Endometrial biopsy has been the method of choice for diagnosing various endometrial pathology.²³ AUB in perimenopausal and postmenopausal patients is alarming and needs meticulous evaluation because it could be the only clinical symptom of endometrial carcinoma and preneoplastic conditions in these patients.

Our research has some limitations. Firstly, our study sample was relatively small. Since this study is retrospective, inadequate patient's information have influenced in the detailed assessment in some

cases. As this is a single centre based study, our study subjects may not represent the situation of whole country. However, we expect that our study would encourage other researchers to perform further elaborate studies on this subject in the future.

CONCLUSIONS

Abnormal uterine bleeding is a common diagnosis and the commonest presentation is menorrhagia. Histopathological examination of the endometrium showed a wide spectrum of pathological changes ranging from normal endometrium to malignancy. This emphasises the need of endometrial sampling as an important diagnostic tool in the management of abnormal uterine bleeding. Dilatation and curettage is a useful and cost-effective sampling procedure in the evaluation of abnormal uterine bleeding. Accurate analysis of endometrial sampling is the key to effective therapy and optimal outcome. This would help in individualising the management of abnormal uterine bleeding with a view to conserve the uterus.

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