

ORIGINAL ARTICLE

*Clinicopathological Study of Endometrial Biopsy in Abnormal Uterine Bleeding*Rahul Sakpal¹, Sameer Kadam², Amardeep Patil¹ and Vijay Dombale¹^{1,2}Department of Pathology¹B.K.L. Walawalkar Rural Medical College and Hospital, Sawarde, Kasarwadi, Ratnagiri - 415606, Maharashtra, India.²Vedanta Institute of Medical Science, Dahanu, Palghar-401606, Maharashtra, India..**Abstract:**

Background: Abnormal Uterine Bleeding (AUB) is any bleeding that does not correspond with the frequency, duration or amount of blood flow of a normal menstrual cycle. The histopathological diagnosis of abnormal uterine bleeding (AUB) shows spectrum of patterns and pathologist plays a vital role in the reporting of endometrial and differentiating non-neoplastic lesion from neoplastic lesions, early detection of precursor lesions and exclusion of malignancy. **Material and Methods:** Specimens received as endometrial curettage were studied followed by correlation of histopathology with age, parity and clinical presentation. **Results:** The peak incidence is observed in the age group of 41-50 years. Most of the patients were multiparous (81.2%). The most common bleeding pattern was menorrhagia (57.12%). The most common histomorphology pattern was proliferative pattern followed by 23.43% cases of endometrial hyperplasia out of which 6 were cases of atypia. Only 7 cases (0.39%) of endometrial carcinoma were reported all of them in the postmenopausal age.

Keywords: Endometrial biopsy, Menorrhagia, Hyperplasia, Histopathology

Introduction:

The FIGO (Federation of obstetrics and gynecology) committee defined AUB (abnormal uterine bleeding) as intermenstrual bleeding and irregular bleeding as outside the 75th percentile.^[1] Many consider menstruating women are unclean and subjected to separation from special rituals mostly prevalent in rural and remote areas of India and Nepal.^[2,3] The endometrium which lines the uterine cavity is one of the most dynamic tissues in the human body; an interesting tissue for histopathologic study. It is characterized by

cyclic processes of cell proliferation, differentiation and death in response to sex steroids elaborated in the ovary.^[4] Normal menstruation is characterized by bleeding from secretory endometrium following an ovulatory cycle. It lasts for duration less than 5 days with an average interval of 28 days and blood loss around 35 ml (20–80 ml)^[5] Abnormal uterine bleeding is the commonest presenting symptom and major gynecological problem responsible for as many as one-third of all out patient gynecologic visit.^{[6],[7]} Menorrhagia affects 10-30% of menstruating women at any one time, and may occur at some time during the perimenopause in up to 50% of women.^[8] Abnormal uterine bleeding is any bleeding pattern that differs in the frequency, duration and amount from a pattern observed during a normal menstrual cycle or menopause. It is a common problem having a long list of causes in different age groups.^[9] Abnormal uterine bleeding that is not associated with any genital tract abnormalities, general or endocrinological diseases are termed as “dysfunctional uterine bleeding”. The term Heavy Menstrual Bleeding (HMB) is used when bleeding interferes with the woman's quality of life in physical, emotional, social and maternal aspects. Excessive menstrual bleeding has many side effects such as anemia, iron deficiency, low quality of life and increased health related morbidity because it is main indication for referral to gynecological clinic.^[10] The endometrial sampling can be chosen to evaluate abnormal uterine bleeding because it has several advantages over other diagnostic methods. The hormonal assay is very expensive and laboratories with hormonal assay are not available in rural areas. Endometrial curettage is relatively inexpensive and accurate as an outpatient procedure. The only disadvantage of endometrial biopsy is that, it is an invasive procedure. Hence we had undertaken the current study in BKL Walawalkar Rural Medical College and Hospital, Sawarde, Ratnagiri to

understand about the disease in our area. The present study was undertaken to evaluate histopathology of endometrium for identifying the causes of abnormal uterine bleeding, to observe the incidence of various pathology in different age groups and to know the distribution of functional changes as well as malignancy causing abnormal uterine bleeding.

Material and Methods:

This was a facility based prospective observational study conducted in a tertiary care center on 100 cases of abnormal uterine bleeding with endometrium sampling. The study was conducted from January 2019 to December 2020 on patients willing to participate in the study. The protocol of this study was approved by the institutional ethical committee of the medical college. Written informed consent was taken from all study subjects before collection of data and they were informed about complete right to withdraw from the study at any time without disadvantage. Reproductive women in all age groups attending department of obstetrics and gynecology with abnormal uterine bleeding were included in the study. Women with pregnancy complications such as,- acute pelvic inflammatory disease, abnormal cervical Pap smear, previous abnormal endometrial biopsy, leiomyoma, haemostatic disorders and women on hormonal treatment for abnormal uterine bleeding were excluded. All cases were analyzed with thorough history and physical examination using pre-validated questionnaires in a face - to - face interview. All endometrial biopsies were fixed in 10% formalin. The Formalin Fixed Paraffin Embedded (FFPE) tissue sections were stained with Hematoxylin and Eosin (H&E) and were reported. Data was collected in pre-structured proforma. The data collected was then analyzed using SPSS Software. Means were compared by using student t test while qualitative variables compared by using Chi square test of significance. Sample size was calculated using "Open Epi statistical software" with 95% confidence interval and 80% power.

Results:

The present study was prospective in nature planned to include endometrial biopsy specimens of 100 cases of clinically diagnosed abnormal uterine bleeding. Total such 100 cases presented during the course of study and we could analyse all of them giving the response rate of 100%. Patients belonging to various age groups (between 20 and 80 years) were recruited for the study. The maximum incidence of AUB was in the 41-50 years age group. The minimum incidence of AUB was in 61-70 years age group. With respect to parity of

subjects, maximum incidence of abnormal uterine bleeding was seen in the parity of 1-3 (85%) and minimum incidence in nulliparous women (05%). The most common type of bleeding pattern (49%) observed was menorrhagia followed by metrorrhagia in 16% of the patients. (Table 1) Histopathology of endometrium showed Proliferative endometrium (Figure 1) in 41%, Secretory endometrium (Figure 2) in 19%, Simple hyperplasia without atypia in 25%, Complex hyperplasia without atypia (Figure 3) in 05%, Endometrial adenocarcinoma (Figure 4) in 07% and Endometrial polyp in 03%. Histopathology of endometrium in the age group of 21-30 years showed Proliferative phase in 25%, Secretory phase in 50%, Endometrial polyp in 25%.

Figure 1: Proliferative phase with round to tubular glands lined by pseudostratified epithelium with mitosis surrounded by compact stroma H&E (20x)

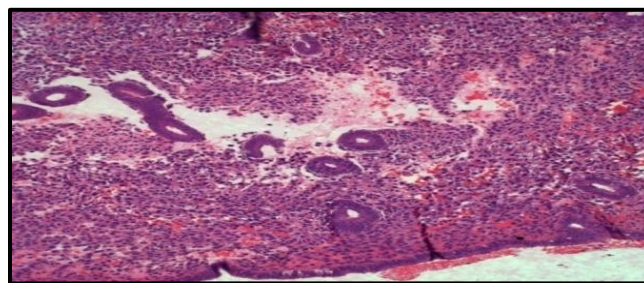


Figure 2: Secretory phase with tortuous glands showing subnuclear vacuolation (as shown by arrow) and oedematous stroma H&E (20x)

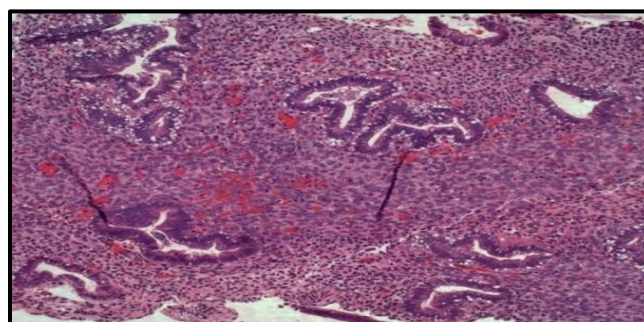


Figure 3 : Complex hyperplasia with atypia with overcrowding of glands, complex glandular architecture with nuclear atypia H&E (20x)

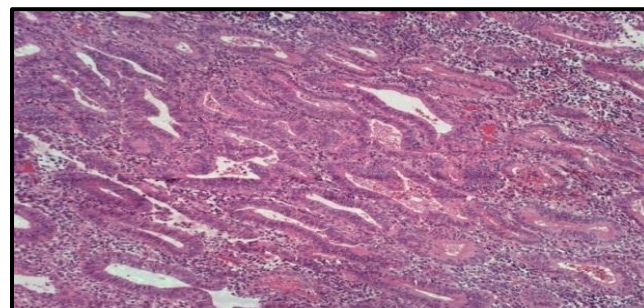


Figure 4 : Endometrial adenocarcinoma showing overcrowding of glands, intraglandular bridging, papillary projections with nuclear atypia & mitosis. H&E (20x)

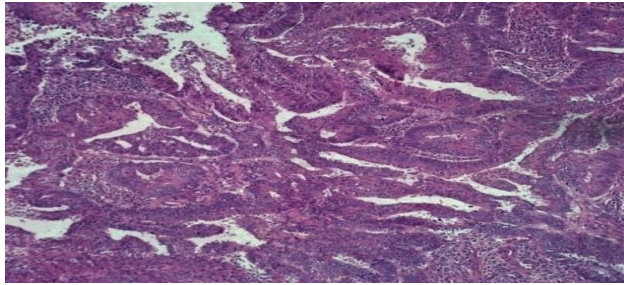


Table 01: Age, Parity and Bleeding pattern distribution
Age Distribution

Age Group in years	Number	Percentage
<20	0	0
21-30	4	4
31-40	26	26
41-50	55	55
51-60	10	10
61-70	2	2
71-80	3	3

Parity Distribution

Parity Distribution	Number	Percentage
Nulliparous	05	05
Multiparous (1-3)	83	83
Grand Multiparous	12	12

Bleeding Pattern

Bleeding Pattern	Number (100)	Percentage (%)
Menorrhagia	49	49
Metrorrhagia	16	16
Menometrorrhagia	12	12
Polymenorrhagia	08	08
Oligomenorrhea	02	02
Postmenopausal	13	13
Total	100	100

Histopathology of endometrium in the age group of 31-40 years showed Proliferative phase in 46.1%, Secretory phase in 23%, Simple hyperplasia without atypia in 23%, Complex hyperplasia without atypia in 3.84% and Endometrial polyp in 3.84%. Histopathology of endometrium in the age group of 41-50 years showed Proliferative endometrium in 50.9%, Secretory endometrium in 21.8%, Simple hyperplasia without atypia in 18.1%, Complex hyperplasia without atypia in 1.81%, endometrial polyp in 1.8% and Endometrial

adenocarcinoma in 5.45%. (Table 2)

Table 2: Age wise distribution of his histomorphological patterns of endometrium

HPE pattern	Reproductive	Premenopausal	Postmenopausal	Total
Proliferative phase	13(43.3)	28(50.9)	0	41
Secretory phase	07(23.3)	12(21.8)	0	19
Simple endometrial hyperplasia without atypia	07(23.3)	10(18.1)	08 (53.3)	25
Complex endometrial hyperplasia without atypia	01(3.3)	01(1.8)	3(20)	5
Endometrial carcinoma	0	03(5.4)	04 (26.6)	7
Endometrial polyp	2(6.6)	1(1.8)	0	3
Total	30(100)	55(100)	15 (100)	100

Discussion:

Abnormal uterine bleeding continues to be one of the most common and perplexing problems in gynecological practice. It may present at any age between puberty and menopause. It may be associated with various kinds of histopathological findings in the endometrium. The highest incidence of AUB was noted in the 41-50 years age group in the present study which is in concordance with the results of the studies by Anusaya D^[11](1964), Muzaffar^[13] and Doraiswami Saraswathi^[14](2011) whereas Bhattacharji^[12] reported maximum incidence in 31-40 years age group. Considering these highest incidences of AUB was seen in the perimenopausal age group. In the present study, the highest incidence of AUB was seen in multiparous (83%), which is in concordance with the results of the studies by Bhattacharji^[12] (46%), Devi PK^[16] (48.6%), Pillai^[17] (87%), Joshi and Deshpande^[18](61.5%), Mehrotra VG et al^[19](46%) and Sadia K^[15](54%). In the present study, Menorrhagia was the commonest type of bleeding (49%) followed by Metrorrhagia (16%), postmenopausal bleeding (13%), menometrorrhagia (12%),

polymenorrhea (08%) and oligomenorrhea (02%) in that order, whereas in the study by Mehrotra VG^[19] showed menorrhagia was the commonest type of bleeding followed by polymenorrhea and metrorrhagia. In the present study proliferative phase (41%) was found to be most common histologic pattern followed by secretory phase (19%), simple hyperplasia without atypia (25%), endometrial polyp (03%), and endometrial adenocarcinoma (07%). In the study done by Sadia Khan^[14], proliferative phase was most common histological pattern followed by secretory phase, simple hyperplasia without atypia, complex hyperplasia without atypia, atrophic endometrium, endometrial polyp, endometritis and endometrial adenocarcinoma in that order.

Conclusion:

Abnormal uterine bleeding is one of the common gynaecological problem encountered in clinical practice and is defined as abnormal bleeding from the uterus in the large volume, longer duration and irregular in frequency. Endometrium is a mirror of histopathology for the hormone dependent and non hormone dependent causes of AUB in different age groups and is important in detecting the cause for diagnosis and patient management. Endometrial biopsy can be easily procured in AUB cases by D&C, which is simple, cost effective and appropriate method that provide accurate diagnostic yield. The present study highlights the importance of endometrial biopsy and its interpretation which play pivotal role in the management of AUB.

Sources of supports: Nil

Conflicts of Interest: Nil

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