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Original Research Article

Histopathology of endometrium in women presenting with abnormal uterine bleeding in Vindhya region

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ABSTRACT

Background: Any alteration in frequency, flow duration/blood loss amount of menstruation is known as Abnormal uterine bleeding/AUB. Almost 30% of all patient attending gynaecology OPD are for AUB. This study was conducted in Vindhya region to study endometrial histopathology amongst women complaining of abnormal bleeding pattern

Materials and Methods: This retrospective study was conducted on 200 women presenting with AUB who undergone endometrial biopsy or hysterectomy in the Obstetrics and Gynaecology Department and sent to Histopathology section of Pathology department, SSMC, Rewa (MP) from Jan 2020 to June 2021. The formalin fixed specimens were received grossing done, followed by processing and then staining with H& E stain, followed by microscopy. Data & history was taken from the patient herself and attenders.

Result: AUB was observed in all age groups. Menorrhagia (105 patients, 52.5%) was commonest bleeding pattern observed in cases of AUB, followed by Metrorrhagia (54 patients, 27%). In our study Proliferative endometrium (71 patients,35.5%) was most common histopathological diagnosis found, followed by Non-Atypical endometrial Hyperplasia (45 patients, 22.5%), Secretory phase (20 patients,10%), DPE (20 patients,10%), Atrophic endometrium (12 patients,6%), Exogenous hormone (pill endometrium 10 patients, 5%), Benign Adenomatous polyp (9 patients, 4.5%), Atypical endometrial Hyperplasia (5 patients, 2.5%), chronic endometritis (5 patients, 2.5%), Endometrial carcinoma (3 patients, 1.5%).

Conclusion: Variable Histopathological findings are found in endometrial biopsy and curettage done in AUB patient. This study emphasizes the significance of endometrial biopsy and its histopathological diagnosis for proper patient management.

1. Introduction

Any alteration in frequency, flow duration/blood loss amount of menstruation is known as Abnormal uterine bleeding/ AUB. Almost 30% of all patient attending gynaecology OPD are having complaint of AUB[1] and it comprises of both organic cause and non-organic causes. Abnormal uterine bleeding due to non-organic causes, where definite organic pathology not found is termed as Dysfunctional uterine bleeding (DUB). Organic causes of AUB mostly ruled out by endometrial biopsy. The cause of AUB differs with differing age and menstrual status, for instance in child bearing age complication due to pregnancy are common, whereas postmenopausal women atrophy and organic causes are commonly found.[2,3]

Dysfunctional uterine bleeding is diagnosis of exclusion when no other organic pathology found in endometrial biopsy, then only DUB diagnosis made common bleeding

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pattern in DUB are estrogen break through bleeding, estrogen withdrawal bleeding and ovulatory endometrium.[4] Most important and common cause responsible for DUB is hormonal imbalance.[5]

Other investigations are equally important to rule other causes of bleeding in women which includes General physical examination, CBC with Platelet count and PS comment, bleeding time, clotting time, thyroid function test to exclude any other medical ailments causing bleeding.

2. Materials and Methods

This retrospective study was conducted on 200 women presenting with Abnormal Uterine Bleeding who undergone endometrial biopsy or hysterectomy in the Obstetrics and Gynaecology Department and sent to Histopathology section of Pathology department, Shyam Shah Medical College, Rewa (MP) from Jan 2020 to June 2021. These cases were investigated and surgically treated. The case with ages above 21 years having proper history and adequate sample were included in study. Women having haemostatic disorder and pregnant women were excluded from the study. Data and history was taken from the patient herself and attenders according to the preformed proforma.

All the formalin fixed specimens (simple Endometrial biopsy or hysterectomy) that were received in our histopathology section of Department of Pathology were fixed in 10% formalin, embedded in paraffin, sectioned at 3-5μ and stained with Hematoxylin and Eosin. Descriptive statistical measures were utilized to present the data.

3. Results and Observation

In our study the age of patient varies from 21-60 years old. 41-50 (107 patients, 53.5%) was most common age group affected found, and minimum was of menopausal age group (19 patients, 9.5%). Parous women (178 patients, 89%) was most commonly affected in study than Nulliparous women (22 patients, 11%). Maximum number of patients presented with symptom for duration less than 6 month accounting for 65% (130 patients). 18% (36 patients) of the cases has duration of 6 months to 1 year and 17% (34 patients) has duration of >1 year.

In our study, 52.5% (105) of the patient presented with menorrhagia and 27%(54) of patient with metrorrhagia and least number of patient 6.5%(13) were of post menopausal bleeding. Functional cause accounted for (66.5%, 133 patients) of the total cases and organic cause accounted for (33.5%,67patients) of total cases.

In our study, 35.5% (71 patient) has Endometrial histopathological finding of Proliferative phase and 22.5%(45 patient) has Non atypical endometrial hyperplasia, 10%(20 patients) has Secretory phase endometrium 10% (20 patients), has Disordered proliferative endometrium, 6% (12 patients), has Atrophic endometrium, 5% Exogenous hormone/Pill endometrium (10 patients), 4.5% Endometrial polyp (9 patients), 2.5% of Atypical endometrial hyperplasia (5patients), 2.5% of Chronic endometritis (5 patients) and 1.5% of Endometrioid carcinoma (3 patients).

Significant association was found between Histopathological diagnosis and age group of study population. As shown in Table 1 the patients of age group 21-30years had most common diagnosis of proliferative phase (11cases, 50%), also those in age group 31-40years has most common diagnosis of proliferative phase (30 cases, 57.9%). Non atypical endometrial hyperplasia (35 cases, 32.8%) was most common finding in patient of 41-50 years while those with age group >50 years of age had common finding of atrophic endometrium (4 cases, 21%).

Significant association was found between histopathological diagnosis and bleeding patterns of study population ($p<0.05$). Patient with menorrhagia had proliferative phase as most common histopathological diagnosis (37 cases, 35.3%**).** Also patients with metrorrhagia had proliferative phase (20cases, 37%) as most common histopathological diagnosis. Atrophic endometrium was mostly seen in patients with post-menopausal bleeding (6 cases, 46.2%) followed by menorrhagia (2 cases, 3.7%).

Non atypical endometrial hyperplasia (NAEH) was most commonly associated with bleeding pattern menorrhagia (30cases, 28.6%) followed by metrorrhagia (11 cases, 20.3%).

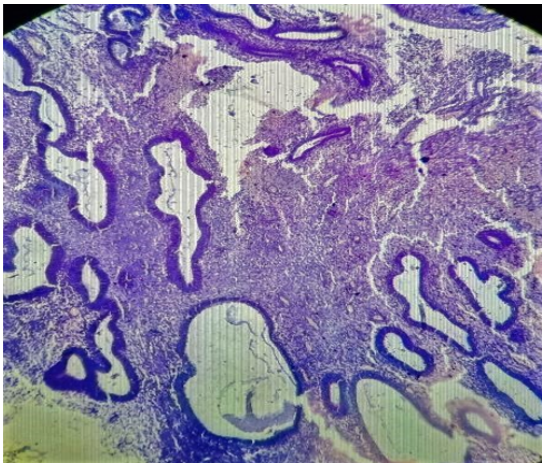

Figure 1: Micro photograph showing Disordered proliferative phase (H&E Stain,10x)

4. Discussion

Study of histopathology of endometrium in women presenting with AUB was conducted among 200 cases in Vindhya region. Any alteration in frequency, flow duration/blood loss amount of menstruation is known as

Table 1: Histopathological pattern of endometrium as per age of the patient

S.No.	Age (years)	No. (Out of 200)	Proliferative phase	Secretor Phase	Disordered proliferative endometrium	Non atypical endometrial hyperplasia	Atypical Endometrial hyperplasia	Endometrial Polyp (benign adenomatous polyp)	Chronic endometritis	Endometrial carcinoma	Atrophicen-dometrium	ExogenousHormone (pill Endometrium)
1	21 to 30	22 (100%)	11 (50%)	07 (31.9%)	-	03 (13.6%)	-	-	-	-	-	01 (4.5%)
2	31to40	52 (100%)	30 (57.9%)	05 (9.6%)	05 (9.6%)	05 (9.6%)	01 (1.9%)	02 (3.8%)	01 (1.9%)	01 (1.9%)	-	02 (3.8%)
3	41to50	107 (100%)	25 (23.5%)	08 (7.5%)	12 (11.2%)	35 (32.8%)	02 (1.8%)	06 (5.6%)	04 (3.7%)	01 (.9%)	08 (7.4%)	06 (5.6%)
4	>50	19 (100%)	05 (26.3%)	-	03 (15.8%)	02 (10.5%)	02 (10.5%)	01 (5.3%)	-	01 (5.3%)	04 (21%)	01 (5.3%)

Chi Square Value= 73.271, P value=0.0000037842 (P value<0.05)

Table 2: Morphological pattern according to bleeding pattern

S.No.	Histopathological Diagnosis (No of Patient out of total 200 patient)	Menorrhagia	Metrorrhagia	Menometrorrhagia	Polymenorrhagia	Post menopausal bleeding
1	Prolife rative phase (71)	37(35.3%)	20(37%)	5(26.4%)	2(22.2%)	7(53.8%)
2	Secretoryphase (20)	9(8.5%)	6(11.1%)	3(15.7%)	2(22.2%)	-
3	Diorderedphase Endometrium (20)	12(11.5%)	6(11.1%)	1(5.3%)	1(11.1%)	-
4	Nonatypical Endometrialhyperplasia (45)	30(28.6%)	11(20.3%)	3(15.7%)	1(11.1%)	-
5	Atypicalendometrial Hyperplasia (5)	02(1.9%)	1(1.9%)	1(5.3%)	1(11.1%)	-
6	Endometrialpolyp(benign Adenomatouspolyp) (9)	05(4.7%)	2(3.7%)	1(5.3%)	1(11.1%)	-
7	Chronicendometritis (5)	04(3.8%)	1(1.9%)	0	0	-
8	Endometrialcarcinoma (3)	01(.9%)	1(1.9%)	1(5.3%)	0	-
9	Atrophicendometrium (12)	02(1.9%)	2(3.7%)	1(5.3%)	1(11.1%)	6(46.2%)
10	Exogenoushormone (Pill Endometrium) (10)	03(2.8%)	4(7.4%)	3(15.7%)	0	-
	Total (200)	105 (100%)	54 (100%)	19 (100%)	9 (100%)	13 (100%)

Chi Square Value =68.873, Pvalue=0.00079

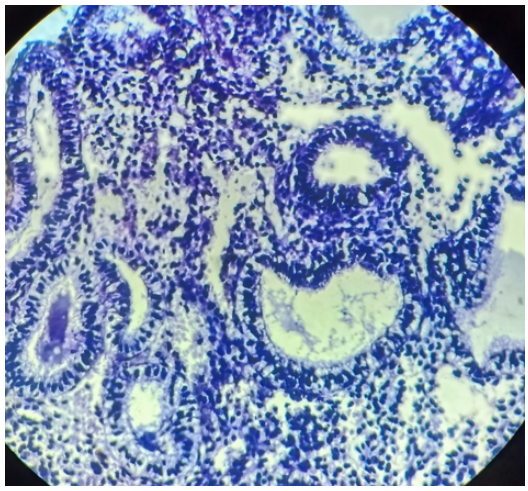

Figure 2: Microphotograph showing Secretory phase (H&E Stain 10x)

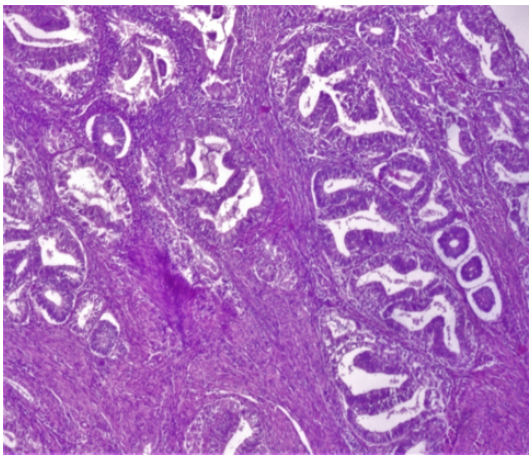

Figure 3: Microphotograph showing endometrial carcinoma (H&E Stain, 10x)

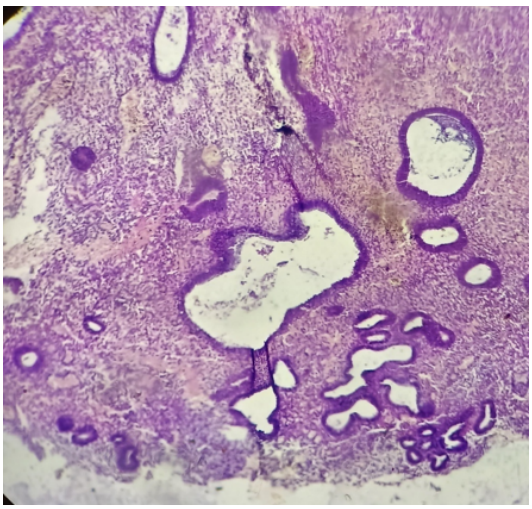

Figure 4: Microphotograph showing Atrophic endometrium (H&E Stain, 10x)

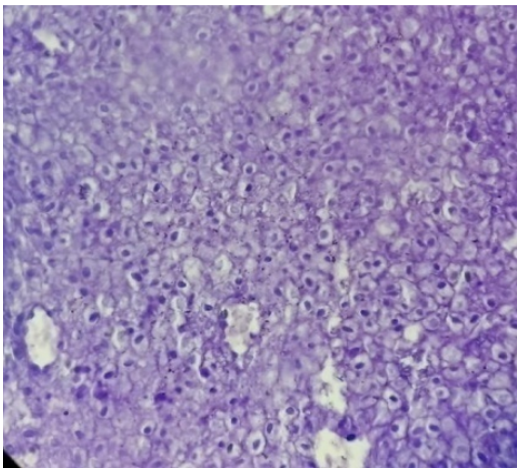

Figure 5: Microphotograph showing endometrial findings following hormonal treatment.(H&E Stain 10x)

Abnormal uterine bleeding/AUB. AUB may be resulted from disease of gynecologic disease and non gynaecologic disease. Organic causes of AUB consists of genital tract disease, iatrogenic causes and systemic diseases. The findings of our study are compared with previous studies and discussed as follows-

In our study 41-50 years (107 patients, 53.5%) was most commonly affected age group, then reproductive age group was affected (74 patients,37%) which was similar to studies conducted by Soleymani et al,[6] Agrawal et al,[7] Kunda et al,[8] Abid et al[9]and Bhattacharya et al.[10] Whereas 45-55 years age group was affected in study done by Manjani et al[11]and >52 years of age was commonly seen in study by Layla et al.[12]

Menorrhagia (53.5%) was most common bleeding pattern than metrorrhagia (27.00%), which was similar to studies done by Agrawal et al,[7] Kunda et al,[8] Manjani et al,[11] Khan et al,[13] Sajitha et al,[14] Ara et al,[15] Vani et al,[16] Nayak et al,[17] Behera et al[18] and Chhatrasal et al.[19]Where as Metrorrhagia was most common bleeding pattern in studies conducted by Bhatta et al,[5] Moghal et al[20]and Bhattacharya et al.[10] In our study least no of patient present with bleeding pattern of polymenorrhoea which was in contrast to study done by Abid et al.[9]

The cause of bleeding may be organic or non organic (functional) in AUB. Functional causes (66.5%) out-numbered organic causes in our study which was similar to most of the previously conducted studies.

The most common finding in our study is Benign (79.5%), followed by Inflammatory (10.9%), Premalignant (6%) and Malignant (3.6%) lesions.[21–23]

In our study the inflammatory lesion was 10.9%, whereas it's incidence was found to be higher in study conducted by Abid et al,[9] Bhatta et al,[24] Patne et al[25] and Hyanki et al.[26] In present study Benign cases were 79.5% which is

comparable with study done by Khan et al[13] and Forae et al.[27]

The incidence of premalignant lesion was found to be 6% in present study which is comparable with Forae et al[27] and Itis less with respect to study done by Khan et al,[13] Sajitha et al,[14] Nazam et al[28] and Bhatt et al.[29]

One of the least common cause of AUB is endometrial malignancy. In our study, 3 cases of endometrial malignancy were found. Endometrioid type endometrial carcinoma was common type found, which was evident in various previous studies. Other type such as MMMT and adenosarcoma were also reported in various other previously conducted studies.

5. Conclusion

Endometrial biopsy can be easily procured in AUB cases by D&C, which is easy, cheap and suitable method that provides correct histopathological diagnosis. This study emphasizes the significance of endometrial biopsy and its histopathological diagnosis for proper patient management.

Other investigations are equally important to rule other causes of bleeding in women, which includes General physical examination, CBC with Platelet count and PS comment, bleeding time, clotting time, thyroid function test, to exclude any other medical ailments causing bleeding.

6. Conflict of Interest

None.

7. Source of Funding

None.

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