

**Original Article****Validation of endometrial curettage and histopathological examination in abnormal uterine bleeding: An tertiary centre study**

Authors

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India**Abstract**

Abnormal uterine bleeding (AUB) is common gynecological problem and is of serious concern in developing countries as it adds to the causes of anemia. It includes bleeding which could be with or without any organic cause. It is termed as dysfunctional uterine bleeding (DUB) when there are no demonstrable pelvic or systemic diseases and no anatomical lesion. AUB may be the common presenting complaint in patients with pre-malignant or malignant endometrial lesion. Clinically AUB present as menorrhagia, metrorrhagia or polymenorrhagia. Of various modalities present for AUB diagnosis, dilation & curettage is most effective as it provide a definitive diagnosis and many a times curative also. We studied 210 females, in duration of two years who undergone D&C for evaluation of AUB. Their clinico radiological findings, drug history etc were noted and findings were co-related with histopathological findings. Mean age of presentation was 39.6 years. Reproductive age group and multipara were more commonly affected. Menorrhagia was most common clinical presentation followed by metrorrhagia and polymenorrhagia. Endometrial hyperplasia was most common cause followed by proliferative endometrium (24.28%), pregnancy complication, chronic endometritis and others. Conclusion: AUB is common gynecological problem of reproductive age group. Proper evaluation of AUB is necessary as it is common problem in reproductive age, increases the prevalence of anemia and may represent to underlying malignancies.

Keywords: Abnormal Uterine bleeding (AUB), Dysfunctional Uterine Bleeding (DUB), Menorrhagia, Metrorrhagia.

Introduction

The endometrial lining of uterine cavity is among the most active tissue of human body, and a

challenging tissue for a histopathologist to report.

In response to sex steroids hormones released by the ovary it undergoes cyclic processes of cell

proliferation, differentiation and death. Abnormal uterine bleeding (AUB) is one of the common reasons for female patients to consult their gynecologist¹. AUB affects one-third of female at one or the other time in their life span. It is leading cause of female morbidity and is of special concern in developing country as it adds to the causes of anemia which is already prevailing in women of our setup.

Abnormal uterine bleeding denotes bleeding pattern that does not fall within normal ranges for amount, frequency, duration and cyclicity². The mean duration of menstrual cycle is 4.7 days, in about 89% of cases cycles last 7 days or longer. About 35 ml average blood loss occurs per cycle³. AUB include bleeding from structural causes like polyps, endometrial hyperplasia, chronic endometritis, proliferative endometrium, fibroids, carcinoma and pregnancy related complication and dysfunctional uterine bleeding (DUB)⁴. Term DUB is used when cause of AUB is not organic; there are no demonstrable pelvic or systemic diseases and no anatomical lesion⁵. AUB denote any bleeding which does not fills the criteria of normal bleeding. AUB in itself is not a diseases but it denote the underlying pathology responsible for it. AUB may be the common presenting complaint in patients with pre-malignant or malignant endometrial lesion⁶.

Various diagnostic techniques are available for evaluation of AUB which include USG, endometrial biopsy, hysteroscopy, dilatation and endometrial curettage (EC) etc⁷. Out of them EC is most effective as even small focal lesion can also be picked up, thus allowing few pathologies to escape. Also it is used when cervical os is stenotic and also as therapeutic procedure in DUB when medical treatment fails^{8,9}. Endometrial curettage technique is now considered as fine line diagnostic tool because of its diagnostic accuracy, safety, quickness and convenience¹⁰. Various endometrial patterns were classified as Proliferative, Secretary, Atrophic, Unsatisfactory, Chronic Endometritis, Polyp, Hyperplasia and Carcinoma. Endometrial Hyperplasia was classified into simple and

complex on the basis of tissue architecture and each was further subdivided into typical and atypical, based on cytology.

Many women with AUB may undergo unwanted hysterectomy without a definitive diagnosis. Endometrial curettage is sensitive and safe method for diagnosis and evaluation of AUB. Early diagnosis for cause of AUB is crucial as various uterine pathologies can be picked up and timely treatment can improve patient's quality of life.

Menorrhagia is regular ovulatory cyclical bleeding which is excessive in amount (>80ml) or time (>5days), and metrorrhagia is anovulatory irregular unpredictable bleeding¹¹.

This study was done to evaluate the role of D&C in AUB, to study histomorphological findings and incidence of various pathologies in different age groups.

Material and methods

This prospective study was conducted in MGM Medical College and MY Hospital during a period of two years (October 2013 to September 2015). Total 210 subjects of age group 15-70 years were selected for the study purpose attending Gynaecology OPD. Detail history was taken and drug history was emphasized (so as to eliminate drug side effect).

Inclusion criteria- Patients of age 15-70 years presenting to gynecology OPD with complaint of AUB for more than 4 months.

Exclusion Criteria- Patients diagnosed as systemic diseases, genital tuberculosis, IUCD in situ, incomplete history, bleeding and coagulation defects, pregnancy, on anti-platelet drugs.

General examination and routine investigations like, BT/CT, blood count, x-ray chest etc were done. USG abdomen Pelvis was also performed by expert sonologist. Endometrial curettage performed by gynecologist after admitting the patient.

The tissue sample obtained was sent to pathology department in 10% formalin and after routine processing tissue sections of 4-6 microns were cut and stained with eosin and hematoxylin and

subsequently seen under light microscope by two different pathologists so as to avoid observer bias. The clinical and radiological findings were correlated with microscopic findings before giving the final histopathological diagnosis. All findings were arranged in tables using Microsoft excel sheet.

Table 1: Distribution of patients according to age:

Age groups	Number of patients	Percentage
<20	17	8.1%
21-30	45	21.4%
31-40	71	33.8%
41-50	54	25.7%
>50	23	11.0%
Total	210	100

Table 2: distribution of patients according to bleeding pattern in AUB

Bleeding pattern	Number of patients	Percentage
Menorrhagia	90	42.85%
Metrorrhagia	59	28.09%
Poly menorrhagia	25	11.90%
Postmenopausal bleeding	22	10.47%
Intermenstrual bleeding	14	6.66%
Total	210	100

Table 3: Histopathological findings

Pathology	Number of patients	Percentage
Endometrial hyperplasia	88	41.90%
Proliferative endometrium	51	24.28%
Pregnancy complications	29	13.80%
Chronic endometritis	15	7.14%
Endometrial polyp	12	5.71%
Fibroids	10	4.76%
Carcinoma Endometrium	05	2.38%
Total	210	100%

Graph 1: Distribution of patients according to parity:

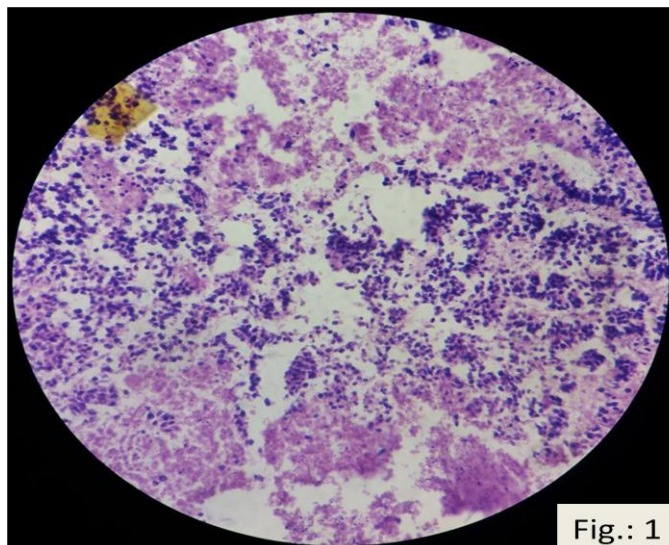
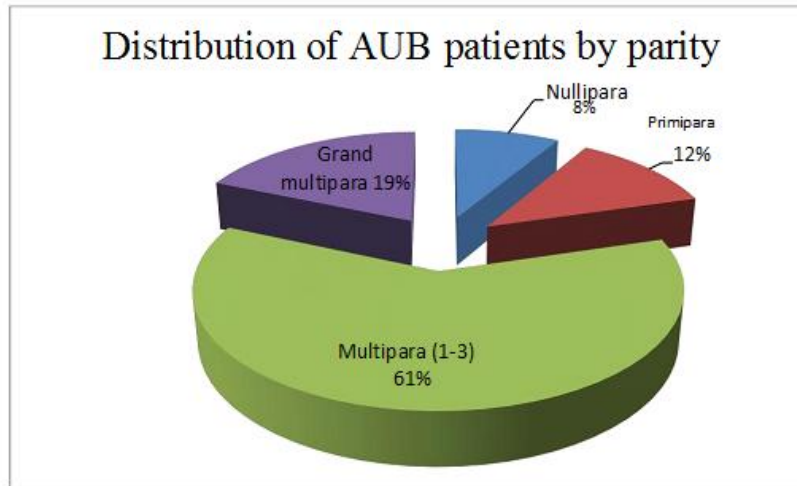


Fig.: 1

Figure 1: endometritis

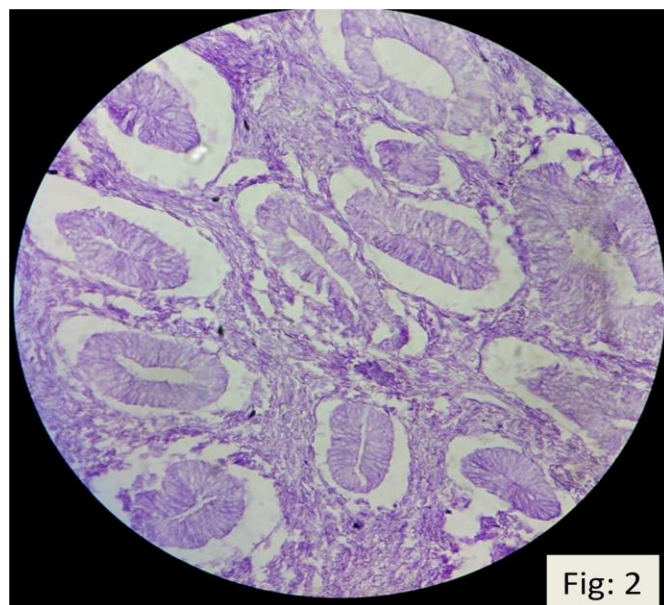


Fig: 2

Figure 2: endometrial polyp

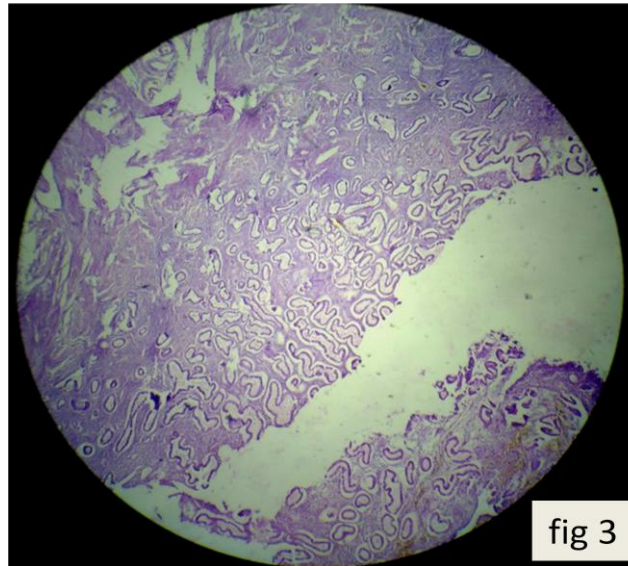


fig 3

Figure 3: simple endometrial hyperplasia

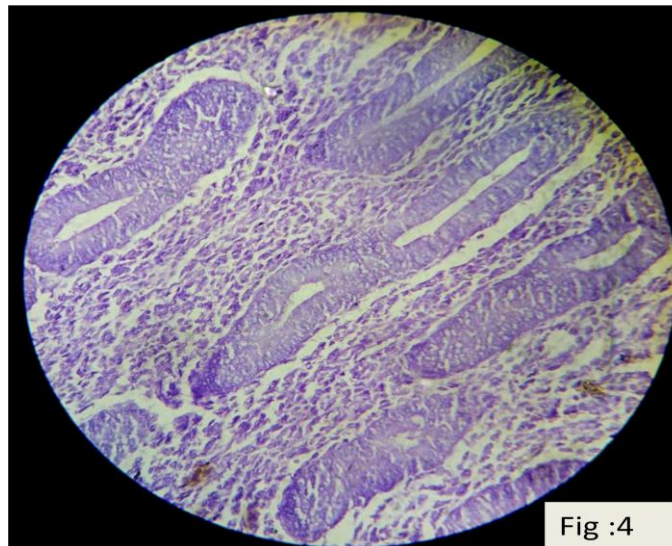


Fig :4

Figure 4: complex endometrial hyperplasia

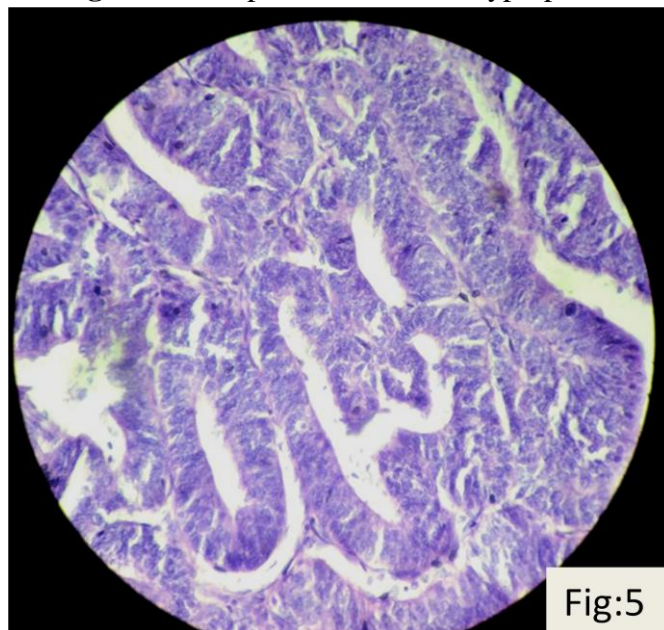


Fig:5

Figure 5: endometrial carcinoma

Discussion

AUB continues to be one of the most frequently encountered and significant morbidity in gynecological OPD¹². As endometrium is dynamic and hormonally sensitive and responsive tissue which constantly undergoes changes throughout the reproductive life, therefore is vulnerable for pathological lesions.

Evaluation of patients with abnormal uterine bleeding begins with routine investigations like complete blood count, platelet count, prothrombin time (PT), Activated partial thromboplastin time (APTT) and liver function test to rule out any coagulation and bleeding disorders. In case of reproductive age group, serum and urine human chorionic gonadotropin (HCG) levels are evaluated to rule out pregnancy. Thyroid function test, follicle stimulating hormone (FSH), luteinizing hormone (LH), and prolactin levels are also assessed. On ruling out these causes, gynecologists turn to imaging studies such as pelvic ultrasound (USG), and transvaginal USG and then at last tissue sampling.

Endometrial curettage is most common mean for assessing AUB. In this procedure scrapping of endometrial lining and histopathological examination of tissue is done without injuring the nearby structures thus is well accepted by patients. Whereas in hysterectomy whole uterus is removed and also there are chances of operative co-morbidity therefore hysterectomy is reserved as final procedure.

In younger age group the disturbance is most likely to be a functional one, in active reproductive life an organic cause for bleeding is more likely, pregnancy-related conditions being the most common. In late years of life, due to hormonal imbalance the functional disorders are common but the possibility of malignancy must be excluded. After the menopause, a local organic cause (the most common being cancer) is often present.

The most susceptible age group to AUB in present study was 31-40 yrs with 33.80% of patients. Ara and Roohi noted maximum (59.02%) number of

patients in perimenopausal group¹³. Doraiswami et al¹⁴ noted in 41-50 yrs age group with 33.5% patients. Rajesh Patil et al found maximum number (45.26%) of patients in 31-40 yrs group¹⁵. Incidence is lower in adolescent girls as mostly abnormal bleeding in that age group resolve spontaneously.

We found maximum incidence (60.95%) of AUB in multiparous women. Similar result was also found by Rajesh Patil et al with percentage of 71.58%¹⁵. Other authors like Pilli et al¹⁶, Mehrotra et al¹⁷, Joshi S.K. & Deshpande DH also found the similar results.

Most common bleeding pattern was found to be menorrhagia in 90 patients (42.85%) followed by metrorrhagia in 59 patients (28.09%), polymenorrhagia (11.90%), post menopausal bleeding (10.47%). Similar results were found by Moghal¹⁶ where they were 48%, 41%, 1.3% and 6% respectively. Our result values are also nearer to results found by Mehrotra VG et al¹⁷ and Pilli et al¹⁶. We found endometrial hyperplasia as most common pathological lesion on histopathology (41.90%), followed by proliferative endometrium (24.28%). Ara and Roohi¹³ noted hyperplasia in 27.95% of cases. Vakiani et al¹⁷ noted hyperplasia in just 5.5% of patients.

Conclusions

According to our study, AUB is mainly the problem of women in reproductive age group and most susceptible age group is 31-40 yrs. Multiparity is also important risk factor for development of abnormal uterine bleeding. Commonest bleeding pattern found was to be menorrhagia followed by metrorrhagia and polymenorrhagia. Histopathological study of endometrial biopsies in AUB patients shows a wide spectrum of changes ranging from normal endometrium in various hormonal cycles to malignancy. Endometrial hyperplasia is the commonest pathological finding in relation to abnormal uterine bleeding followed by proliferative endometrium and pregnancy related complication. AUB in older patients should

always raise a suspicion of malignancy. Histopathological examination of AUB patient will help in individualizing the management with a view to conserve the uterus.

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