

## Histopathological study of endometrium in abnormal uterine bleeding

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### Abstract

**Background:** Abnormal uterine bleeding is a common problem among women in the reproductive age group. Its prevalence is 9-14% worldwide and in India it is 17.9%.

The acronym PALM COEIN was introduced in 2011 by FIGO to standardize the nomenclature of AUB.

**AIM:** To study the histopathological pattern of endometrium in women of different age groups presenting with AUB and its importance.

**Materials and Methods:** This was an observative analytical study done among 100 patients of AUB attending Gynaec OPD in Government Victoria Hospital, Andhra Medical College, Visakhapatnam from May 2018 to April 2019. Endometrial Curettage was done in all AUB patients of age > 40 years and in < 40 years with risk factors for endometrial carcinoma and samples were sent for histopathological examination.

**Observation and Results:** AUB was more common in the age group of 36-45 years (61%) in para 2 (50%). Organic lesions were found in 60% and 40% were dysfunctional. Fibroids were most common (35%) of the organic causes of AUB. Histopathology of endometrium showed proliferative pattern in 42% and next to it was Secretory endometrium in 39%

**Conclusion:** Although hysteroscopic evaluation is gold standard for AUB, endometrial curettage continues to be performed in public hospitals.

**Keywords:** AUB, endometrial curettage histopathological examination

### Introduction

- Abnormal uterine bleeding is a common problem among women in the reproductive age group.
- AUB may be accompanied by pain and discomfort, cause significant social embarrassment, anxiety and have a substantial effect on health-related quality of life.

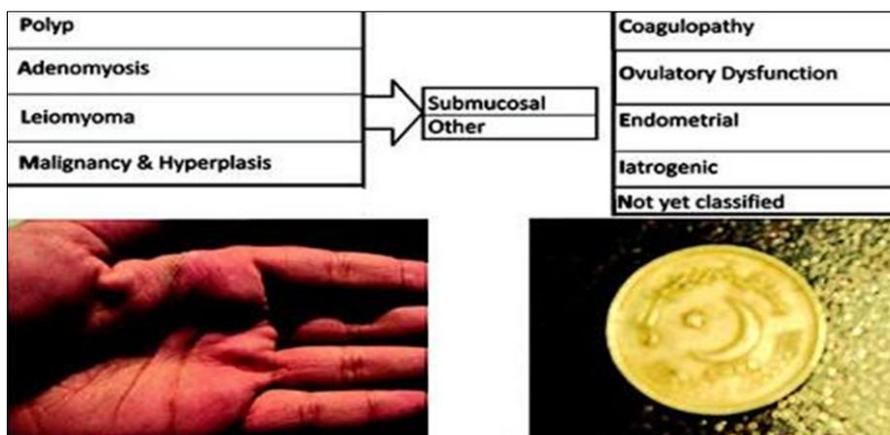
### Epidemiology

- AUB is reported to occur in 9 to 14% women between menarche and menopause worldwide.
- In India prevalence of AUB is around 17.9%

- It is considered one of the common and challenging problems presenting to the gynaecologists regardless of age.

### Nomenclature

- To standardise nomenclature of AUB a new system known by acronym PALM-COEIN was introduced in 2011 by FIGO.
- The system is based on etiopathogenesis
- PALM-describing structural causes
- COEIN- non-structural causes.



**Fig 1:** Adopted from manro et al. [5] FIGO classification system (PALM-COEIN) for causes of abnormal uterine bleeding

**Diagnosis of AUB**

- It is suggested to abandon the old overlapping terminology and to use PALMCOEIN classification for the diagnosis of AUB.
- Any case of AUB needs to be completely evaluated.
- Thorough menstrual history should be taken, history alone can establish diagnosis of anovulatory bleeding which should be followed by clinical examination.
- The combination of sonohysterography and endometrial biopsy offers high sensitivity and high negative predictive value for detection of endometrial and uterine pathology in AUB.

**Investigations**

- Complete blood count
- Urine pregnancy test-to rule out pregnancy
- Complete coagulation profile
- Thyroid profile
- Ultrasonography
- Doppler ultrasonography-if AV malformations are suspected.
- 3D ultrasonography-non-invasive alternative for hysteroscopy
- Saline infusion sonography
- Hysteroscopy and biopsy
- Endometrial histology/endometrial aspiration
- MRI-to differentiate between adenomyoma and fibroid.

**Endometrial Histopathology**

Histopathology remains the diagnostic standard for diagnosing endometrial pathology and its management. Endometrial histopathology is recommended in AUB In all women >40yrs  
 In women <40yrs with risk factors for endometrial carcinoma and AUB unresponsive to medical treatment.

Risk factors for endometrial carcinoma

- Irregular bleeding
- Obesity
- Hypertension
- PCOS
- Diabetes
- Endometrial thickness > 12mm on ultrasound
- Family history of malignancy of ovary / breast / endometrium / colon
- Use of tamoxifen for HRT / Breast cancer
- HNPCC

**AIM of the Study**

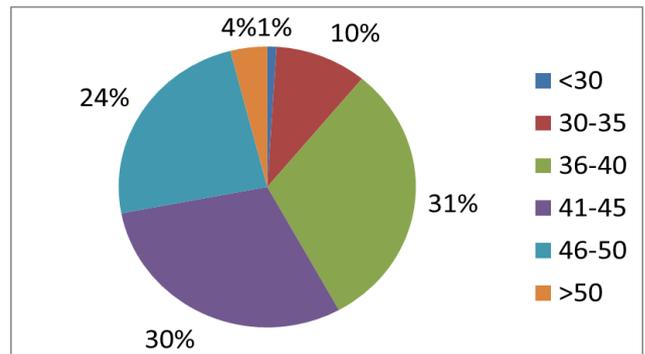
- To study the histopathological pattern of endometrium in women of different age groups presenting with AUB and its importance.

**Materials and Methods**

- This was an observative analytical study done among 100 patients of AUB attending Gyn OPD in Government Victoria Hospital, Andhra Medical College, Visakhapatnam from May 2018 to April 2019.
- Endometrial curettage was done in all AUB patients of age >40yrs and in <40yrs age with risk factors for endometrial carcinoma and in pts who are unresponsive to medical treatment and endometrial samples obtained were sent for histopathological examination.

**Results**

- Distribution of AUB in Different Age Groups. (n=100)  
 Age wise distribution of AUB cases



**Fig 1**

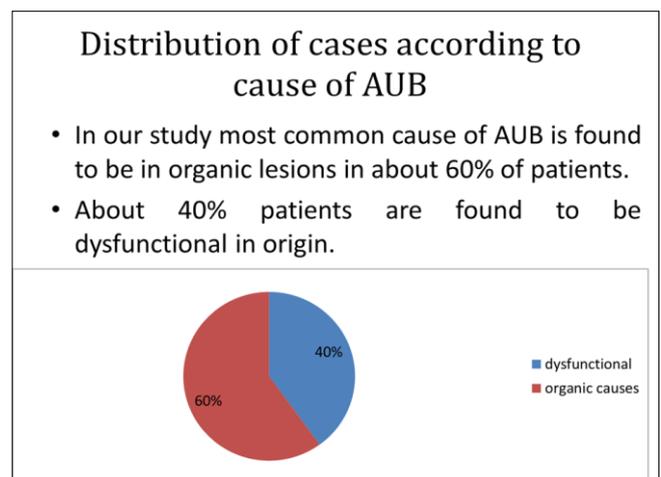
Distribution of AUB according to parity.

**Table 1**

PARITY	NO.OF PATIENTS WITH AUB
0	9
1	14
2	50
>3	27

Parity	No. of Patients
nulliparous	9
para1	14
para2	50
>p3	27

Distribution of cases according to cause of AUB



**Fig 2**

**Table 2: Organic causes**

Cause	No. of patients	Percentage
Fibroids	35	35%
Adenomyosis	12	12%
polyps	3	3%
Hyperplasia	10	10%

Different endometrial patterns in AUB observed in our study are: (n=100)

▪ Proliferative endometrium	- 42	42%
▪ Secretory endometrium	- 39	39%
▪ Irregular ripening	- 02	02%
▪ Focal cystic dilatation	- 03	03%
▪ Atrophic endometrium	- 02	02%
▪ Cystic glandular hyperplasia	- 05	05%
▪ Simple atypical hyperplasia	- 04	04%
▪ Complex atypical hyperplasia	- 01	01%
▪ Clear cell metaplasia	- 01	01%
▪ Chronic endometritis	- 01	01%

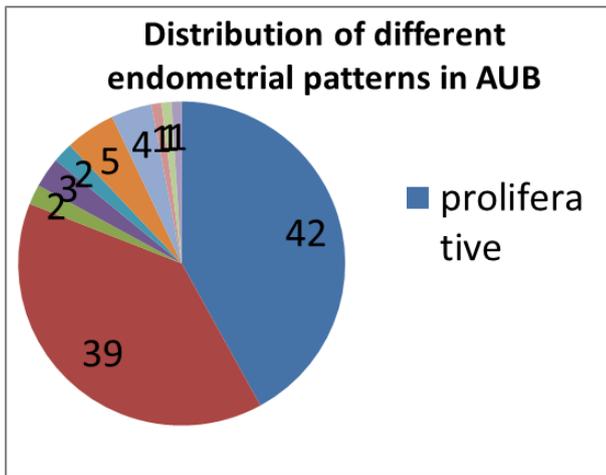


Fig 3

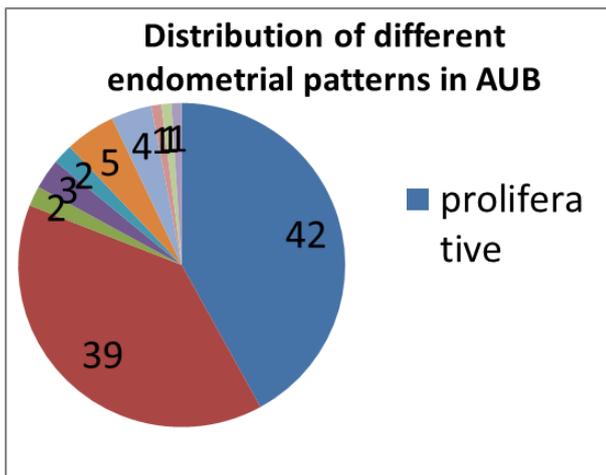


Fig 4

**Discussion**

- AUB is the bleeding from uterus which is abnormal in volume, regularity and / or timing.
- AUB may result from wide variety of causes, including anovulation, pregnancy, uterine pathology and coagulopathies.
- In reproductive age mostly due to hormonal but sudden change from a well-established pattern of regular and predictable menses is a complication of pregnancy.
- Anovulatory bleeding is usually irregular in frequency, amount and duration observed in adolescents, aging, obese women and PCOS.
- Regular and predictable but increasingly heavy or prolonged periods or new onset of episodic intermenstrual bleeding mostly due to anatomical cause.
- The diagnosis is mostly based on history, clinical

examination.

- In all the cases pelvic ultrasonography is done to correlate the findings.
- Dilatation and curettage can be diagnostic as well as therapeutic
- Endometrial biopsy plays an important role in diagnosis and management of AUB.
- It remains as the standard procedure to rule out endometrial pathology.
- In our study majority of the cases of AUB belong to the age group 36-45. (61%)
- Increased incidence in this period may be because these patients are in climacteric period having anovulatory cycles.
- Parity wise maximum incidence was seen among para 2 (50%)
- Histopathological examination of endometrial biopsy with AUB showed a wide spectrum of changes ranging from normal endometrium to malignancy. Commonest endometrial pattern in our study was proliferative endometrium- 42% and next to it was secretory endometrium-39%.
- AUB in proliferative endometrium may be probably due to anovulatory cycles and in secretory endometrium due to ovulatory AUB, need to search for anatomical cause.
- Findings like cystic dilatation, irregular ripening, chronic endometritis are also seen in some patients.
- Focal cystic hyperplasia is seen in 3% of cases simple atypical hyperplasia in 4% and complex atypical hyperplasia in 1% cases.
- 3% women with simple atypical hyperplasia have the risk of developing endometrial cancer. Complex Atypical hyperplasia however has the tendency to develop into carcinoma in as much as 29% cases.

**Conclusion**

- Although hysteroscopic evaluation is the gold standard for AUB, endometrial curettage continues to be performed in public hospitals.
- Endometrial sampling is preferred procedure for diagnosis of endometrial pathology and endometrial curettage is a valuable and cost effective technique for evaluation of any endometrial pathology by histopathological pattern.

There is no conflict of interest among the authors.

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