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## Study of histopathological changes in uterine endometrium in abnormal uterine bleeding

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### Abstract

This study aims to know the different histopathological changes occurring in Abnormal uterine bleeding and correlate the endometrial pattern with clinical behavior.

**Methodology:** All women with the complaint of menstrual irregularities with no apparent organic pathology are selected, and bleeding patterns are recorded using pictorial blood loss assessment chart (PBAC) and d&c done, compared with histopathological reports.

**Results:** Among the 50 patients with AUB, the prevalence is 28% at the age of 36-40 years and 58% are parous women, and 36% are with frequent menstrual cycles, and 26% are related to heavy menstrual bleeding among them proliferative endometrium accounts 46%.

**Conclusion:** AUB is more prevalent in 36-40year age and increases with an increase in parity. With common clinical symptomatology, women with abnormal uterine bleeding were predominantly associated with frequent menstrual patterns and heavy menstrual bleeding. Menstrual disturbances are primarily due to anovulation comparing with histopathology.

**Keywords:** abnormal uterine bleeding, D&C, PBAC, histopathological reports

### 1. Introduction

Uterine bleeding is an end-organ phenomenon. It usually occurs cyclically. But acyclic episodes are also observed many times in some individuals. The endometrial picture determines the bleeding pattern. The exact mechanism whereby these changes bring about bleeding is to be determined. In general, abnormal uterine bleeding remains primarily a clinical entity covering all forms of abnormal uterine bleeding patterns In the absence of demonstrable pelvic or systemic pathology, either gross microscopic/functional<sup>[1]</sup>. Usually, no abnormality is detected in most of the case of abnormal uterine bleeding.

### 2. Aim

This study aims to know the different histopathological changes occurring in Abnormal uterine bleeding and correlate the endometrial pattern with clinical behavior.

### 3. Materials and Methods

**3.1. Source of Data:** Women admitted to government general hospital, ACSR medical college, Nellore.

**3.2. Study Design:** Prospective study comparative

**3.3. Study place:** Government general Hospital. Nellore

**3.4. Sample size:** 50

**3.5. Inclusion Criteria:** All women with the complaint of menstrual irregularities with no obvious organic pathology.

### 3.6 Exclusion criteria

- women more than 45 years of age
- women not willing for the study
- women with acute abnormal uterine bleeding

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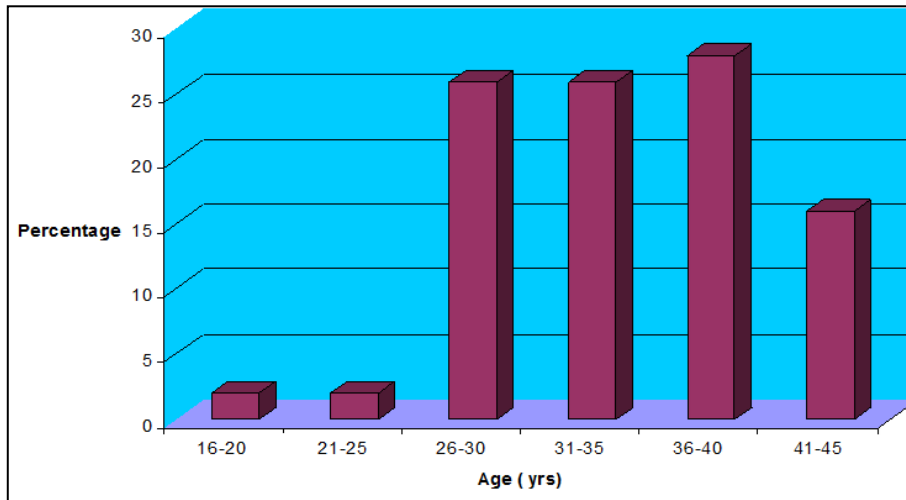
**3.7. Methodology**

Detailed case history which includes age, parity, complaints with duration, menstrual history, history of hormonal intake, blood dyscrasias, and drug intake were noted, thorough physical, systemic, and gynecological examination was done. Routine laboratory tests and selective investigations like thyroid profile, ultrasonogram was done. the amount of blood loss is assessed by using a pictorial chart designed by Higham *et al*, (1990), followed by Uterine dilatation& curettage / Endometrial biopsy was done in all cases and materials sent for histopathological

examination in 10% formalin solution and observed for Surface epithelium, Glands their shape, size, lining epithelium, Stroma and are compared.

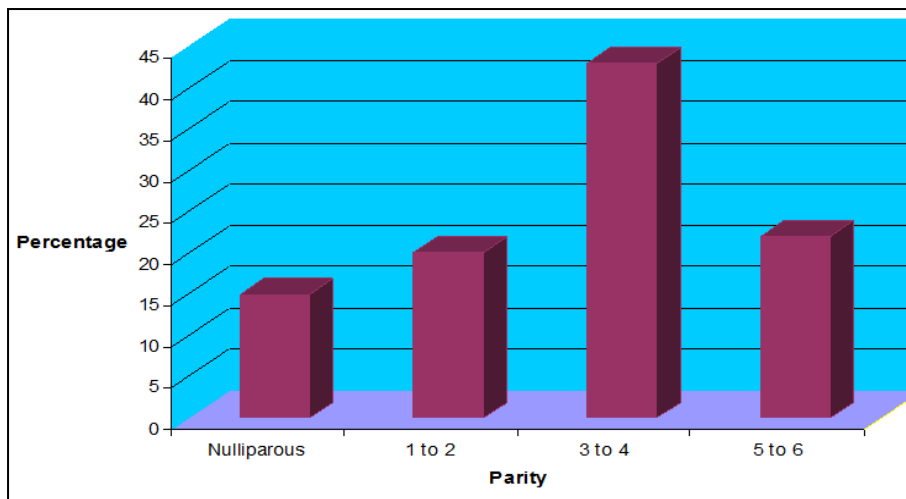
**4. Results**

This study was performed on 50 cases who fulfilled the before-mentioned criteria admitted to government and general hospital acsr medical college Nellore after taking proper history, examinations, investigations, and procedures the observed results are as follows:



**Fig 1:** "AUB" -Age distribution

The majority (28%) of patients were seen in the 36-40yrs group. A minority (2%) was seen among the 16-20yrs group.



**Fig 2:** "AUB" Parity prevalence

As far as parity is concerned maximum number is seen in the group P3-4 (43%) followed by grand multiparous group-P5-6 (22%) 20% cases were seen in P1-2 and lastly 15% in nulliparae.

Observations of menstrual abnormalities in various age groups showed heavy menstrual bleeding was mostly seen in the age group of 26-30yrs. HMB with frequent menstruation in age 26-30yrs, frequent menstruation in the 31-35yrs group. Irregular bleeding is seen in 36-40 and 41-45yrs.

**Table 1:** "AUB" Menstrual irregularities

Menstrual abnormality	n/t	Percentage (%)
Heavy menstrual bleeding(HMB)	13/50	26
HMB with frequent menstruation	13/50	26
Frequent menstruation	18/50	36
Irregular menstruation	6/50	12

Frequent menstruation (36%) is the most common menstrual abnormality among all the abnormalities

**Table 2:** "AUB"- Endometrial pattern

Endometrial pattern	n/t	Percentage (%)
Proliferative endometrium	23/50	46
Secretory endometrium	14/50	28
Cystoglandular hyperplasia	6/50	12
Irregular Ripening	6/50	12
Simple hyperplasia	2 /50	2

Among the samples collected by d&c, histopathological forms areas above among them most common is proliferative phase indicating anovulatory cycles followed by secretory

endometrium with least observed variant is simple hyperplasia and with no cases of irregular shedding

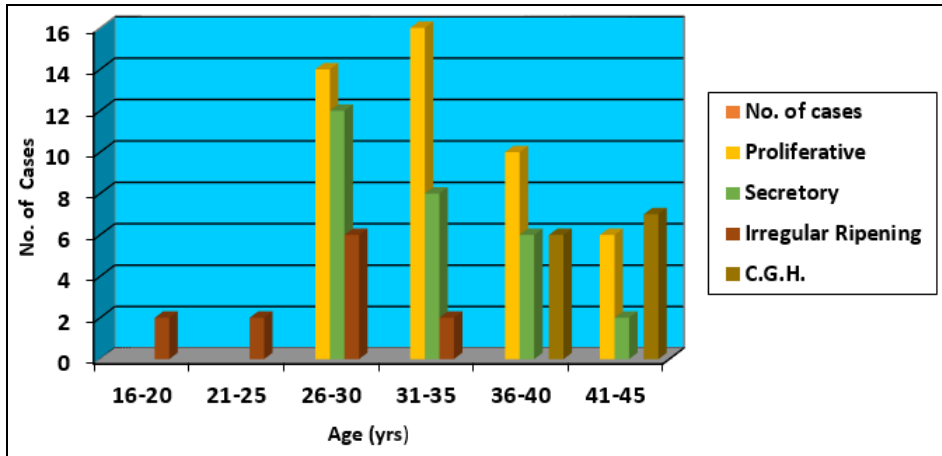


Fig 3: "AUB" Age Vs Endometrial pattern

Correlation of endometrial pathology with different age groups revealed that proliferative type is dominated among the age groups between 26-35yrs. Secretory endometrium is also seen mostly among women of the same age group. Rest of the varieties Viz: Irregular Ripening, Cystic glandular hyperplasia are spread among other age groups. Only two cases of Simple hyperplasia seen in women of 43yrs.

**5. Discussion**

Abnormal Uterine Bleeding is one of the most frequent gynecological Problems encountered by women, the incidence being 5-15%. AUB is found to be common at the two extremes of reproductive life, around puberty and menopause [2]. In this study, 100 cases of AUB were recruited as the study population with age groups varying between 16-45yrs. Various parameters like age, parity, menstrual abnormalities, and endometrial pattern in these cases were observed & correlated with each other in our study so that certain derivations could be made running on par with those studies made globally

Table 3: "AUB"- Age distribution

Study	Age (yrs)	total cases	Percentage %
Dr. Babu S. Patel <i>et al.</i> (1992) [32]	32-40	50	40
Vakania M. <i>et al.</i> (1996) [28]	30-45	1282	62
Noshin Wasim <i>et al.</i> (2000) [29]	30-48	680	42
Mohammad mujaffar <i>et al.</i> (2005) [9]	41- 50	260	44
WHO (2006)	30-55	18mil	52
Present study	31-45	50	70
	<30	50	30

In the study of Vakania *et al* 62% of cases were found to be in 30-45yrs age. In our study, 70% of cases were seen in women of 31-45yrs and 30% were seen below 30yrs of age. Among this 30%, only 4 cases were seen in the age group of 16-20 & 21-25 yrs (2). 26 of these 30% women belong to 26-30yrs. Our observations are found to be consistent with those of the above studies. Our study also shows as mentioned above AUB is seen mostly in the extremes of the reproductive period.

In regards to parity, Studies have shown that the incidence of AUB is directly proportional to parity. More common in parous

women than nulliparae. Dr. Babu. S. Patel *et al.* study shows that most of the women (44%) are multiparous (P3-4). Nullipara constitutes only 10%. Rest of the cases viz P1-2 & P5-6 constitute 20% & 26% respectively. The present study also shows with increasing parity, the number of cases increased proportionally. But on the contrary in grand multiparae (40-45 yrs age group), there was less number of cases (22%) noted, which contradicts the above statement to some extent.

Table 4: "AUB" Menstrual Disturbances

Study	Total no. cases	Menstrual irregularities	Percentage %
Mahammad Mujaffer <i>et al.</i> [9]	260	Menorrhagia	29.2
		Polymenorrhoea	41.9
		Polymenorrhagia	3.5
Moghal <i>et al.</i> [7]	930	Menorrhagia	39
		Polymenorrhoea	40
Yusuf <i>et al.</i> [8]	240	Menorrhagia	11
		Polymenorrhoea	31
Present study	50	Menorrhagia	26
		Polymenorrhoea	36
		Polymenorrhagia	26

Frequent menstruation (polymenorrhoea) is the most common menstrual irregularity in our which is in corresponding to the above studies followed by menorrhagia & polymenorrhagia (heavy menstrual bleeding).

As per the study of WHO (2006), Menorrhagia was mostly (43.7%) seen in the 26-30yrs age group. Polymenorrhoea is seen mostly (40.8%) in the 31-35 yrs age group. The study by Bhatla *et al* also shows that menorrhagia (38.4%) predominant in the 26-30 group. Polymenorrhoea (52.9%) in 31-35 yrs group. In our study, Polymenorrhoea (12%) was predominant in the 31-35yrs age group & Menorrhagia (8%) in the 26-30yrs group. Metropathia cases (40%) were seen in the 41-45 age group in both WHO & Bhatla studies. In the present study, Metropathia cases were seen equally in both 36-40 and 40-45 groups (6% each). Age incidence of Metropathia in our study is consistent with other studies though the percentage of incidence is quite less (40%vs12%). This may be because our study sample is comparatively small to make reasonable conclusions.

**Table 5:** “AUB” Endometrial pattern

Study	Endometrial pattern	Percentage %
ReeniMalik, Agarval <i>et al.</i> (2008)	Proliferatory	41
	Secretory	29
	Irregular ripening	7
	Irregular shedding	12
	CGH	5
	Simple hyperplasia without atypia	6
Vakiani. M. <i>et al.</i> (1996) <sup>[4]</sup>	Proliferative	41.86
	Secretory	24.56
	Irregular shedding	10.77
	Irregular ripening	15.43
Noshin Wasim <i>et al.</i> (1996) <sup>[5]</sup>	Proliferative	43
	Secretory	42
	Irregular ripening	4
	Irregular shedding	1
	CGH	8
Joshi & Deshpande Study (1964)	Simple hyperplasia without atypia	
	Proliferative	50
	Secretory	22
	Irregular ripening	9
	Irregular shedding	4
	CGH	11
Present study	Simple hyperplasia without atypia	4
	Proliferative	46
	Secretory	28
	Irregular ripening	12
	CGH	13
	Simple hyperplasia without atypia	1

Concerning Endometrial patterns in AUB cases various above studies show the predominance of Proliferative endometrium ranging from 41-50%. In the present study also proliferative endometrium is dominating to an extent of 46% which is on par with the other studies. Secretory endometrium in our study is observed in 28% of cases, which also consistent with the above studies (22-29%). Other types of endometrium like Irregular ripening (12%) are also consistent with the above. The least percentage of cases showed Simple hyperplasia in other's studies which also is observed in the present study.

## 6. Conclusion

Abnormal uterine bleeding is more prevalent in 36-40 yrs age increase in parity. Concerning clinical symptomatology, women with abnormal uterine bleeding were found to present predominantly with polymenorrhoea & menorrhagia cycles. Menstrual disturbances are mostly painless due to anovulation. Ultrasonogram acts to be a diagnostic tool in support of menstrual history & clinical examination. Histopathological examination of endometrium offers high sensitivity and high negative predictive value for the detection of endometrial pathology in women with abnormal uterine bleeding.

Management of abnormal uterine bleeding depends on the type of menstrual irregularity (ovulatory/anovulatory), age, fertility desired & endometrial histology. Most of the patients with AUB can be managed medically or by D&C successfully & many unnecessary hysterectomies can be avoided. Hysterectomy is an expeditious method of resolving this refractory and recurrent type of AUB.

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