

Histopathological Study of Endometrium in Abnormal Uterine Bleeding

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Abstract:

Background: Women suffer from many gynaecological diseases. One among them is abnormal uterine bleeding, which has significant morbidity in that it interferes with their personal, family and social life. Woman today experience more menstrual cycles than her ancestors did. This is mainly due to decreased parity and reduction in lactational amenorrhea. Abnormal uterine bleeding is sometimes so morbid that she needs time off from her regular work.

Material & Methods: The present study was conducted in out patients department of Gyane and Obs. Department of J.L.N. Medical College, Ajmer. In this study 100 cases were included during period of July 2018 to June 2019. They were in the age group of 17-50 years.

Results Various types of endometrial patterns were studied. The incidence of proliferative endometrium was 50%, secretory endometrium 17%, Cystoglandular hyperplasia 15%, Adenomatous hyperplasia 1%, endometrial polyp 1%, atypical hyperplasia 01%, arias-stella reaction 02%, chronic endometritis 02%, pill endometrium 02%, mixed endometrium 05% and lytic endometrium was 04%.

Conclusion conclusion is that dilatation and curettage is useful for diagnosis, to assess therapeutic response and to know the pathological incidence of organic lesions in cases of abnormal uterine bleeding prior to surgery.

Keywords: abnormal uterine bleeding, menorrhagia, endometrial biopsy, Endometrial Curettage.

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I. Introduction:

The endometrium which lines the uterine cavity is one of the most dynamic tissues in the human body; an interesting tissue for histopathological study. It is characterized by cyclic processes of cell proliferation, differentiation and death in response to sex steroids elaborated in the ovary.¹ Abnormal uterine bleeding is the commonest presenting symptom and major gynaecological problem responsible for as many as one-third of all outpatient gynaecologic visit.² 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.³ Abnormal Uterine Bleeding (AUB) is defined as any bleeding that does not correspond with the frequency, duration or amount of blood flow of a normal menstrual cycle.⁴ It is a common problem and could be a sign of simple hormonal imbalance or a serious underlying condition necessitating aggressive treatment including a major surgical procedure.⁵ The endometrial sampling is 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. Ultrasonography clearly depicts the uterine contour and the status of the ovary, but fails to provide adequate information regarding the endometrium, except in atrophy and hyperplasia.⁶ Very few lesions escape detection by D&C, especially as hysteroscopy has almost replaced blind curettage so that the uterine cavity can be observed and the area in question can be curetted.⁷ The only disadvantage of endometrial biopsy is that, it is an invasive procedure. The underlying abnormality can be detected by histological variations of endometrium taking into account the age of the woman, the phase of her menstrual cycle, and use of any exogenous hormones. An understanding of the normal morphological appearance of the endometrium provides an essential background for the evaluation of endometrial pathology.¹

II. Material & Methods:

The present study was conducted in out patients department of Gyane and Obs. department of J. L. N. Medical College, Ajmer. In this study 100 cases were included during period of July 2018 to June 2019. They were in the age group of 17-50 years. Endometrial curettage samples were fixed in 10% formalin and send to Department of Pathology, JLN Medical College, Ajmer for histopathological assessment.

Eligibility Criteria

All cases of abnormal uterine bleeding received by outpatient clinic (age group 17 – 50) in department of Gyane and Obs. Of J.L.N. Medical College, Ajmer. Abnormal uterine bleeding cases forming part of hystrectomy were also included in study.

This study will be done with detailed clinical history like:

1. Bleeding per vagina – In amount, duration, episode of intermenstrual bleeding if any.
2. History of dysmenorrhoea.
3. History of white discharge.
4. History of emotional stress/psychiatric abnormality.
5. Obstetric history.
6. Menstrual history.
7. Previous menstrual history.
8. Personal history.
9. General examination.
10. Systemic and local examination.
11. Laboratory investigations.
12. Biopsy reports of Diagnostic Dilatation & Curettage of Endometrium(D&C).

In this study the patient analyzed on following way:

1. Distribution of dysfunction uterine bleeding (AUB) according to various age group.
2. Relation of Abnormal uterine bleeding in parity.
3. Bleeding pattern in abnormal uterine bleeding patient.
4. Type of endomaterial pattern in Abnormal uterine bleeding patient.

Exclusion Criteria

1. Pregnancy and gestational trophoblastic disease
2. Patient with lower genital tract infection. Patient with pelvic inflammatory diseases.
3. Clotting or coagulation disorders
4. Carcinoma of uterus
5. Congenital abnormally of uterus

Method

100 cases of AUB were analysed in the following ways:

1. Distribution of AUB cases according to various age groups
2. Relation of AUB with Parity
3. Bleeding patterns in AUB patients.
4. Type of endometrial pattern among various age groups.
 - Reproductive age group (21-40years)
 - Perimenopausal age group
5. Type of endometrial pattern among various age groups
6. Types of endometrial pattern in 100 cases of AUB
7. Types of bleeding patterns 100 AUB cases:
 - In relation with Menorrhagia
 - In relation with Metrorrhagia
 - In relation with Polymenorrhagia
 - In relation with Oligomenorrhoea
 - In relation with Menometror rhagia

III. Results:

Distribution of 100 AUB cases according to various age groups

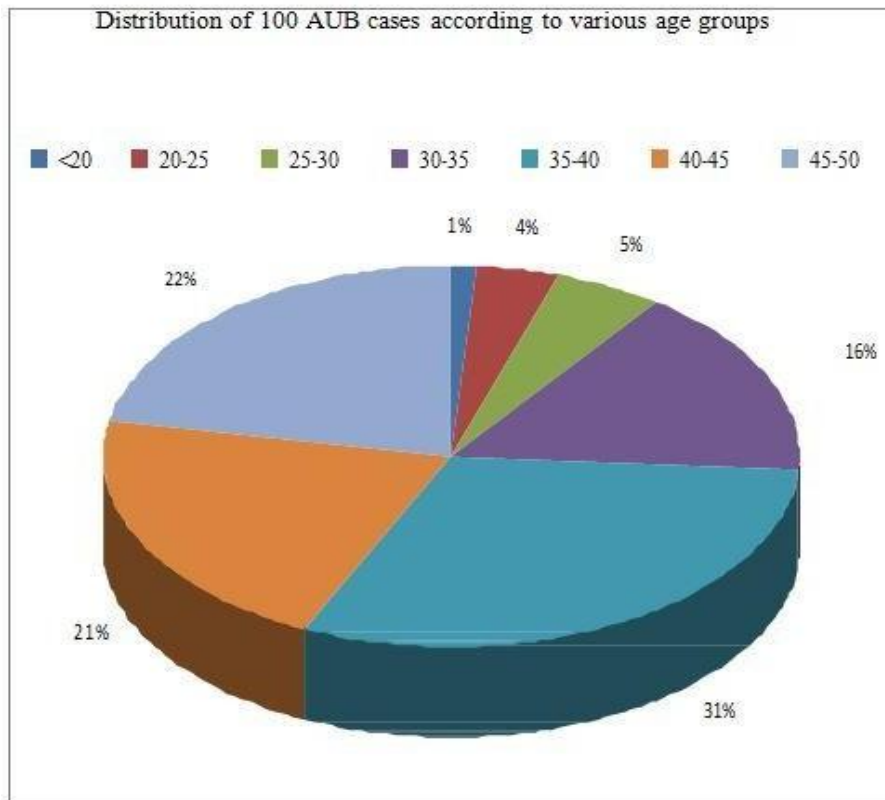
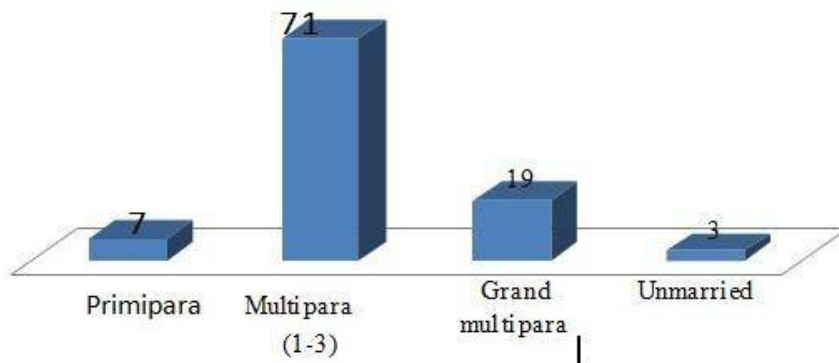


FIGURE 1:
Distribution of 100 AUB cases according to various age groups

The above figure shows AUB in different age groups. Between the age group < 20 years, 01 case (01%) were seen. Between the age group of 20-25 years, 04 cases (04%) were seen. Between the age group 26-30 years, 05 cases (05%) were seen. Between the age group of 31-35years, 16cases (16%) were seen. Between the age group of 36-40 years 31 cases (31%) were seen. Between the age group of 41 -45 years’ 21 cases (21%) were seen. Between the age group of 46-50, 22 case (22%) were seen. So the maximum incidence were seen in the age group of 36-40 (31%), minimum incidence was in the age group of 17-20(01%).

Relationship of AUB with parity.

FIGURE 2: RELATIONSHIP OF AUB WITH PARITY

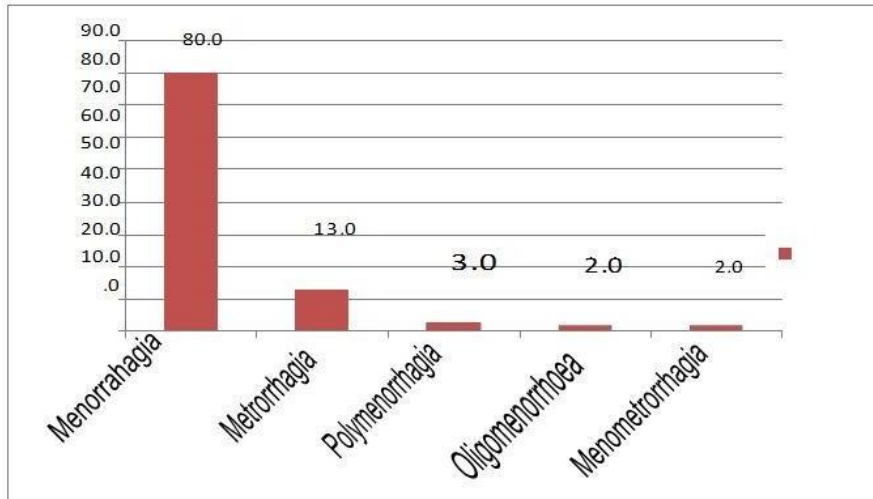


The above chart shows relationship of AUB with the parity. In unmarried, AUB was seen only in 03 cases. In primipara, AUB was seen only in 07 cases. In multipara, AUB was seen in 71 cases. In grand multipara, AUB was seen in 19 cases.

The incidence of abnormal uterine bleeding was highest in multiparous women.

BLEEDING PATTERN IN 100 AUB PATIENTS.

FIGURE 3: Bleeding pattern in 100 AUB patients.



The above data depicts the different patterns of bleeding in AUB. 80 patients (80%) came with the complaints of menorrhagia, 13 patients (13%) came with the complaints of metrorrhagia, 03 patients (03%) came with the complaints of polymenorrhagia, 02 patients (02%) came with the complaints of oligomenorrhoea, and menometrorrhagia. Maximum incidences were with the complaint of menorrhagia (80%) followed by metrorrhagia (13%).

TABLE 1: TYPES OF ENDOMETRIAL PATTERNS AMONG REPRODUCTIVE AGE GROUP (21-40 YEARS)

Type of Endometrium	No. of cases	Percentage
Proliferative Endometrium	29	50%
Secretory Endometrium	11	19%
Lytic Endometrium	2	3.30%
Cystoglandular Hyperplasia	8	13.70%
Arias stella Reaction	2	3
Chronic Endometritis	1	1.70%
Pill Endometrium	1	1
Mixed Endometrium	4	6.80%
Total	58	100%

There were 58 cases belonging to the reproductive age group. Out of 58 cases there were 29 cases with proliferative endometrium (50%), 11 cases of secretory endometrium (19%), 2 cases of lytic endometrium (3.30%), 2 cases of arias stella reaction (3.40%), 8 cases of Cystoglandular hyperplasia (13.70%), 4 cases of mixed endometrium (6.80%), 1 case of chronic endometritis, and 1 case of pill endometrium.

TABLE 2: TYPES OF ENDOMETRIAL PATTERN AMONG PERIMENOPAUSAL AGE GROUP

Type of Endometrium	No. of cases	Percentage
Proliferative endometrium	21	50%
Secretory Endometrium	6	14.28%
Cystoglandular Hyperplasia	7	16.66%
Adenomatous Hyperplasia	1	2.30%
Atypical hyperplasia	1	2.30%
Endometrial Polyp	1	2.30%
Chronic Endometritis	1	2.30%
Lytic Endometrium	2	4.76%
Mixed Endometrium	1	2.30%
Pill Endometrium	1	2.30%
Total	42	100%

There were 42 cases belonging to the perimenopausal age group. Out of 42 cases , there were 21 cases with proliferative endometrium (50%), 6 cases of secretory endometrium(14.28%), 07 cases of Cystoglandular hyperplasia (16.66%), 01 case of Adenomatous hyperplasia (2.30%), 01 case of atypical hyperplasia (2.30%), 01 case of endometrial polyp (2.3%), 01 case of chronic endometritis (2.30%), 02 case of lytic endometrium (4.76%), 01 case of mixed endometrium (2.3%), 01 case of pill endometrium(2.3%). Between the age group of 17-20 years, there was 01 case of proliferative phase.

TABLE 3: CORRELATIVE STUDY OF BLEEDING PATTERN IN RELATION TO ENDOMETRIAL PATTERN IN 100 AUB CASES

TYPE OF ENDOMETRIUM	NO. OF CASES	PERCENTAGE
Proliferative Endometrium	42	42%
Secretory Endometrium	12	12%
Cystoglandular Hyperplasia	10	10%
Adenomatous Hyperplasia	01	01%
Arias- Stella Reaction	02	02%
Complex Atypical hyperplasia	01	01%
Mixed Endometrium	04	04%
Lytic Endometrium	04	04%
Pill Endometrium	02	02%
Chronic Endometritis	02	02%
Total	80	80%

Cases of AUB which presented with the complains of Menorrhagia, there were 80 cases, out of which, 42 cases (42%) of proliferative phase, 12 cases (12%) of secretory phase, 10 cases of Cystoglandular hyperplasia, 01 case (01%) of Adenomatous hyperplasia, 02 cases (02%) of arias- stella reaction, 01 case (01%) of complex atypical hyperplasia, 04 cases (04%) of mixed endometrium, 04 cases (04%) of Lytic endometrium, 02 cases (02%) of pill endometrium, 02 cases of chronic endometritis were seen.

**TABLE 4:
CORRELATION OF METRORRHAGIA IN RELATION TO ENDOMETRIAL PATTERN**

TYPE OF ENDOMETRIUM	CASES NO. OF	PERCENTAGE
Proliferative endometrium	04	4%
Secretory Endometrium	04	4%

Cystoglandular Hyperplasia	03	3%
Endometrial polyp	01	1%
Mixed Endometrium	01	1%
Total	13	13%

Cases of AUB which presented with the complains of Metrorrhagia, there were 13 cases. Out of which 04 case (4%) of proliferative phase, 04 cases (4%) of secretory phase ,03 cases (3%) of Cystoglandular hyperplasia, 01 case of endometrial polyp, 01 case of mixed endometrium were seen.

Abnormal uterine bleeding continues to be one of the most frequently encountered and perplexing problems in Gynaecological practice. It may present at any age between puberty and menopause and it may occur with any type of endometrium.

The following are the some of the prominent studies conducted pertaining to study of abnormal uterine bleeding in various parts of the country.

In the present study incidence of AUB in the reproductive age group was 68%. So in both the studies highest incidence was noted in the reproductive period of life.

The incidence during childbearing period may be high probably because these patients seek medical aid readily than other groups.

In the Sutherland⁵ series incidence of abnormal uterine bleeding in premenopausal age group was 37.7%. In the present study, it was 23.5%

A popular teaching was that abnormal uterine bleeding occurs more frequently at either ends of the child bearing period. The incidence of abnormal uterine bleeding in the present study, 03% were nullipara, 07% were primipara. 71% were multipara and 19% were grand multipara.

In the present study maximum incidence were in the multipara 1-3 (71%) The incidence of AUB was highest in parous women.

In V.G. Mehrotra's⁶ series, 20% were nulliparous, 46% were multiparous, and 34% were grand multi women. Hence, this showed highest incidence of AUB in parous women. Parity appeared to have relationship with D.U.B. The higher incidence in multipara can be explained because the general population shows higher incidence of multiparity.⁶

In the present study incidence of menorrhagia was 80% metrorrhagia was 13% polymenorrhagia was 03%, oligomenorrhoea was 02% and menometrorrhagia was 02%.

In V.G. Mehrotra's⁵ series the incidence of menorrhagia was 52% metrorrhagia was 19.33% polymenorrhagia 26.0%, and postmenopausal bleeding was 2.67%.

In the present study the highest incidence of menorrhagia 80% was seen which is similar to the above observations.

ENDOMETRIAL HYPERPLASIAS IN CASES OF A.U.B.

Various types of endometrial hyperplasias were noticed. The most common type was cystoglandular hyperplasia.

The incidence of endometrial hyperplasias has been quoted to vary between 19.4% to 68% by different authors. V.G. Mehrotra found it as at 19.4%.

There were 01 cases of endometrial polyp and 02 cases of chronic endometritis in the present study of abnormal uterine bleeding which was accounted for 01% and 02% respectively of all cases.

Analysis of the clinical and histopathological findings:

1. Patients belonging to various age groups (between 17-50 years) were studied. The maximum incidence of AUB was in the 36-40 years age group. The minimum incidence of AUB was in 17-20 years age group.
2. Patients belonging to various types of parity were studied. Maximum incidence of abnormal uterine bleeding was seen in the parity of 1-3 (71%). Minimum incidence of abnormal uterine bleeding was seen in the nulliparous women (3%).
3. Various types of endometrial patterns were studied. The incidence of proliferative endometrium was 50%, secretory endometrium 17%, Cystoglandular hyperplasia 15%, Adenomatous hyperplasia 1%, endometrial polyp 1%, atypical hyperplasia 01%, Arias-Stella reaction 02%, chronic endometritis 02%, pill endometrium 02%, mixed endometrium 05% and lytic endometrium was 04%.
4. In the age group of 17-20 years only one case of proliferative endometrium was seen.
5. In the age group of 21-30 years, 66.66% of proliferative phase, 22.22% of Cystoglandular hyperplasia, and 12.01% of mixed endometrium were seen.
6. In the age group of 31-40 years, 45.83% of proliferative phase, 22.97% of Secretory phase, 12.5% of

Cystoglandular hyperplasia, 4.66 % of Arias- Stella reaction, 2.08% of chronic endometritis, 2.08 % of Pill endometrium, 6.25% of Mixed endometrium, 4.16% of Lytic endometrium were seen.

7. In the age group of 41-50 years 50% of Proliferative endometrium, 14.28% of Secretory phase, 16.66% of Cystoglandular hyperplasia, 2.38% of Adenomatous hyperplasia, 2.38% of Endometrial polyp, 2.38% of Atypical endometrial hyperplasia, 2.38% of chronic endometritis, 2.38% of pill endometrium, 2.38% of mixed endometrium, 4.76% of Lytic endometrium.

8. No case of irregular shedding and irregular ripening of endometrium were seen.

9. Incidence of associated organic pathology was 03%. One case of endometrial polyp and two cases of chronic endometritis were seen.

10. The most common bleeding pattern encountered in AUB was menorrhagia. 80% patients presented with menorrhagia , followed by Metrorrhagia which was seen in 13% of cases.

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