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To Evaluate the Endometrial Histopathological Etiology of Abnormal Uterine Bleeding: A Hospital Based Observational Study

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Abstract

Background: The study of endometrial microscopy in women with AUB is helpful to distinguish anovulatory from ovulatory AUB and to diagnose hyperplasia and carcinoma of endometrium. The aim of this study to find out the endometrial histopathological causes of abnormal uterine bleeding. **Subjects and Methods:** A hospital based descriptive type of observational study done on all abnormal uterine bleeding cases of age above menarche attending the outdoor of Government hospital & Government Medical College, Bharatpur (raj.). The study material consisted of endometrial curettings from 100 patients attending Gynecology OPD. These patients were having a clinical diagnosis of Abnormal uterine bleeding. Endometrial curettage samples were fixed in 10% formalin and histopathological slides were prepared sand Hematoxyline and Eosin staining was done. **Results:** In the present Study, high incidence of AUB was noted in 31-40 years (42%). The incidence of AUB in the reproductive age group was 57%. **Conclusion:** We concluded 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, Endometrial Biopsy, Dilatation, Histopathology, Curretage.

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Introduction

Abnormal uterine bleeding is one of the commonest conditions for which patients seek advice in the gynaecological outpatient department. It is estimated that 9-30% of women of reproductive age suffer from menorrhagia. The prevalence increases with age, peaking just prior to menopause. About 20% of affected individuals are in the adolescent age group and 50% of affected individuals are aged between 40-50 years.[1]

With medical advancements combined with increasing awareness about gynaecological problems women gain access to most of the diagnostic and therapeutic modalities.

The endometrial biopsy 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 as a diagnostic tool has limited value in abnormal uterine bleeding, except in atrophy and hyperplasia. Other investigations like hysteroscopy and hysterosalpingography are mainly helpful in diagnosing organic pathology.

Endometrial curettage is relatively inexpensive and accurate as an office procedure. Hormonal assay must be correlated with the histomorphological studies of endometrium.[2] The only disadvantage of endometrial biopsy is that, it is an invasive procedure. The aim of this study to find out the endometrial histopathological causes of abnormal uterine bleeding.

Subjects and Methods

A hospital based descriptive type of observational study done on all abnormal uterine bleeding cases of age above menarche attending the outdoor of Government hospital & Government Medical College, Bharatpur (raj.).

Exclusion Criteria

Abnormal uterine bleeding cases suffering from leiomyoma, cervical & vaginal causes and Hemostatic disorders.

Method of Collection of Data

The study material consisted of endometrial curettings from 100 patients attending Gynecology OPD. These patients were having a clinical diagnosis of Abnormal uterine bleeding.

Endometrial curettage samples were fixed in 10% formalin and histopathological slides were prepared sand Hematoxyline and Eosin staining was done.

Histopathological Examination

(A) Fixation-The fresh specimens of biopsy were fixed in 10% formalin solution immediately for 24 hours.

(B) Processing of tissue:-The tissue was subjected to the following procedure for paraffin embedding

1. Dehydration
2. Clearing
3. Impregnation
4. Embedding

- Dehydration: Tissue was taken out from 10% formalin and was kept in acetone to three hourly in three increasing strength i.e.-80% followed by 100%
- Clearing: Tissue was transferred to two changes of xylene, then transferred to chloroform over night.
- Impregnation: Tissue was transferred in the molten wax and kept overnight.
- Paraffin Embedding: The embedding was done in pure paraffin and molded in a square block.

Cutting: Section was cut at 5 micron s thickness with rotary microtome.

Mounting: Section were then mounted on albuminized glass slides.

Staining of histopathology specimen

Paraffin section were kept into water after the following procedure

1. Section put in, at a temperature of 54ºC to 56ºC to melt the wax.
2. Then the slides were kept in a jar of xylene for 5 minutes.
3. Again slide were kept in a jar of xylene for 5 minutes.
4. Then sections were transferred to descending serials of alcohol.
5. The section was transferred to 50% alcohol.
6. Finally were washed in running water for 2-5 minutes
7. Section was stained in Meyer's haematoxylin solution for 15 minutes.
8. Slides were rinsed in water and slides were passed through gentle steam of running tap water for 20 minutes.
9. Counter stain with 1% solution of eosin for 2 minutes.
10. Rinsed and dehydrate in 95% and absolute alcohol, 2 changes for 2 minutes each.
11. Clear in xylene, 2 changes for 2 minutes each.
12. Mount in DPX.

Results & Discussion

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.

Age distribution of these cases revealed maximum in 4th decade and minimum in 2nd decade. Incidence of abnormal uterine bleeding was highest in multiparous women and minimum in nullipara. Similarly maximum incidence with complaint of menorrhagia (48.0%) followed by metrorrhagia.

The age of the patient with A.U.B. has been taken as a criterion for study in attempt to establish incidence of A.U.B. in various age groups. Earlier it was believed that dysfunctional uterine bleeding occurs more frequently at either ends of the childbearing period. Foreign workers such as Sutherland (1962),[3] Naheed (1997),[4] Ayesha (2005),[5] Sadia khan (2011),[6] Vaidya 2013,[7] and Vijay kumar (2014),[8] have reported highest incidence in age group of 41-50 years. Similarly Anusuya Das (1964),[9] reported the maximum incidence of 36.2% in the 5th decade.

Das and Chugh (1964),[9] Bhattacharji (1964),[10] Rajesh (2013),[11] Abid M (2014),[12] and Supriya et al (2014),[13] have reported highest incidence in 31-40 years of age. In the present Study, high incidence of AUB was noted in 31-40 years, it was 42% which is found to be similar to many observations.

In the present study incidence of AUB in the reproductive age group was 57%. 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 Sutherland series incidence of dysfunctional uterine bleeding in premenopausal age group was 37.7%. In the present study, it was 23.5%. Naheed (1997),[4] Sadia Khan (2011),[6] Vaidya (2013),[7] Rajesh (2013),[11] and Supriya (2014),[13] reported maximum case of proliferative phase in AUB patients.

Naheed (1997),[4] reported 25.33% cases, Sadia khan (2011),[6] reported 38.4% cases, Vaidya (2013),[7] reported 23.82% cases and Supriya (2014),[13] 23.6% cases of secretory phase in AUB patients. Sadia khan (2011),[6] reported 01% cases and Supriya (2014),[13] reported 1.1% cases of atrophic endometrium. In present study proliferative phase was reported in 41% cases, secretory phase in 32% cases are reported.

Table 1: Types of endometrial pattern among various age groups

Age In Years	No. Of Cases	Proliferative Phase		Secretory Phase		Cystoglandularr Hyperplasia		Simple Hyperplasia		Endometritis		Pill Endometrium		Mixed Phase		Endometrial Polyp		Menstrual Phase		Unsatisfactory		Reg.Atypia		Adenocarcinoma		Atrophy
		Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total
<20	3	-	-	1	33.33	-	-	1	33.33	-	-	-	-	-	-	-	-	1	33.33	-	-	-	-	-	-	-

21-30	15	6	40	5	33.3	-	-	-	-	-	-	-	-	1	6.66	-	-	2	13.33	1	6.66	-	-	-	-	-
31-40	42	20	47.6	19	45.23	-	-	1	2.38	1	2.38	-	-	-	-	-	-	1	2.38	-	-	-	-	-	-	-
41-50	35	16	45.7	10	28.57	1	2.85	2	5.71	-	-	1	2.85	1	2.85	-	-	2	5.71	1	2.85	-	-	1	2.85	-
>50	5	2	40	1	20	-	-	1	20	-	-	-	-	-	-	-	-	1	20	-	-	-	-	-	-	-
TOTAL	100	44	44.0	36	36.0	1	1	4	4	1	1	1	1	2	2	-	-	7	7	2	2	-	-	1	1	-

Table 2: Types of Endometrial Pattern in Our Study

Type of Endometrium	No. of cases	Percentage
Proliferative phase	41	41
Secretory phase	32	32
Cystoglandular Hyperplasia	1	1.0
Simple Hyperplasia	8	8.0
Endometritis	1	1.0
Pill endometrium	0	0.0
Mixed phase	1	1.0
Menstrual phase	8	8
Adenocarcinoma	1	1
Atrophic	1	1
Reg.Atypia	1	1
Polyp	1	1
Unsatisfactory	4	4.0
Total	100	100

Conclusion

We concluded 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.

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