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Original Article

A Study on Histopathology of Endometrium in Abnormal Uterine Bleeding

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Abstract

Introduction: Histological examination of the submitted endometrial tissue remains the standard diagnostic procedure for the assessment of abnormal uterine bleeding. In addition, accurate histopathological diagnosis facilitates the implementation of optimal treatment strategies. Histopathological diagnosis varies according to the age. ***Methodology:*** This was a study on histopathology of endometrium in AUB, undertaken in the Department of Pathology over a period of two years. Material for the study consisted of dilatation and curettage samples of endometrium obtained from patients presenting with AUB, who were either attending OPD or admitted in hospital, which was sent for histopathological study to the Department of Pathology

Results: Among 140 functional cases of AUB, secretory endometrium and proliferative endometrium were the most common patterns and were seen in 54 cases (39%) and 35 (25%) cases, respectively. This was followed by 27 (19%) cases of disordered proliferative endometrium,17 (12%)cases of AUB due hormonal effect and 7 (5%)cases of irregular shedding. ***Conclusion:*** Amongst the 78 organic lesions causing AUB, endometrial hyperplasia was the most common and seen in 62 (73%) cases. The other organic causes of AUB observed in this study include 4 (5%) cases of endometritis 4 (5%) cases of endometrial polyp and 8 (9%) cases of malignancy.

Key words: Endometrium; Abnormal Uterine Bleeding; endometritis.

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Introduction

Abnormal uterine bleeding is considered as one of the most common and challenging problems presenting to the gynecologist; it is responsible for as many as one-third of all out patient gynaecologic visits.[1,2] It can be caused by a wide variety of systemic diseases such as endocrine disorders or drugs. Endometrial assessment by endometrial biopsy or curettage is indicated in some of these conditions in females in the peri and postmenopausal years in order to exclude endometrial hyperplasia or carcinoma. Younger women may also need endometrial sampling if abnormal bleeding does not resolve with medical management.[1] Prior to menopause, 20% of

gynecology visits and approximately one fourth of gynecologic procedures are done for AUB. The primary goal of the clinical evaluation of AUB is to establish a specific diagnosis in the most efficient and least invasive manner possible.[3]

Histological examination of the submitted endometrial tissue remains the standard diagnostic procedure for the assessment of abnormal uterine bleeding. In addition, accurate histopathological diagnosis facilitates the implementation of optimal treatment strategies. Histopathological diagnosis varies according to the age. Endometrial hyperplasia and cancer are higher in peri and postmenopausal women while in younger age groups, changes related to hormonal effects seems to be more common.[1]

It is now generally accepted that an adequate clinical examination of abdomen and pelvis, and uterine curettage, hysteroscopy or at least an endometrial biopsy are essential to exclude organic diseases of the uterus in these women.[4] Conventional dilatation and curettage is a successful and safe procedure in abnormal uterine bleeding.[5]

Methodology

This was a study on histopathology of endometrium in AUB, undertaken in the Department of Pathology over a period of two years.

Material for the study consisted of dilatation and curettage samples of endometrium obtained from patients presenting with AUB, who were either attending OPD or admitted in hospital, which was sent for histopathological study to the Department of Pathology.

Sample size: 218 patients

A detailed clinical history was recorded from 218 patients and the endometrial samples sent to pathology laboratory were analyzed.

These specimens were fixed in 10% formalin and gross morphology were recorded. Endometrial samples were totally embedded. These bits were placed in cassettes and kept in fixative and processed in the automatic tissue processor.

Paraffin tissue blocks was prepared and 4-6micron size sections was cut and stained with routine haematoxylin and eosin staining. Microscopic study was done. Special stains like PAS and Reticulin were done to confirm certain doubtful cases.

Inclusion Criteria

1. Endometrial tissue obtained after dilatation and curettage procedure for abnormal uterine bleeding in any age group are included.

Exclusion Criteria

1. Bleeding from cervico-vaginal lesion.
2. Persons with known hematological causes of bleeding.
3. Pregnancy related complications.
4. Clinically diagnosed cases of local lesions like leiomyoma.
5. Hysterectomy specimens are excluded from this study.

Statistical Analysis

Chi-square test was used to compare clinical features with histopathological diagnosis.

Results

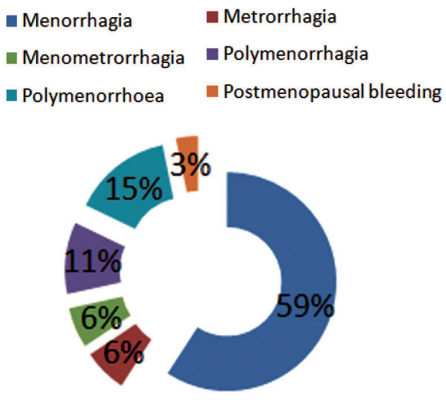
All the 218 patients presented with abnormal excessive bleeding per vagina. The type of bleeding in these patients were as follows.

Table 1: Distribution of bleeding pattern in AUB patients.

Bleeding Pattern	No of cases	Percentage
Menorrhagia	129	59.1
Metrorrhagia	14	6.4
Menometrorrhagia	13	5.9
Polymenorrhagia	23	10.5
Polymenorrhoea	32	14.6
Postmenopausal Bleeding	7	3.2
Total	218	100

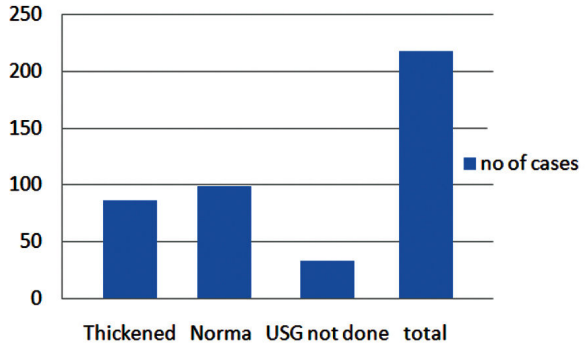
Of 218 patients 129 presented with menorrhagia, 32 with polymenorrhoea, 23 with polymenorrhagia, 14 with metrorrhagia, 13 with menometrorrhagia and 7 with postmenopausal bleeding. Most common bleeding pattern encountered in this study was menorrhagia(61%).(Table 1)

Graph 1: Distribution of bleeding pattern in AUB.



Of 218 patients presenting with AUB, USG was done in 185 patients. USG findings showed, normal endometrium for 99 patients and thickened endometiurm in 86 patients. Other causes for AUB were also observed along with Endometrial Thickness. (graph 1)

Graph 2: Endometrial thickness in USG in AUB Patients.

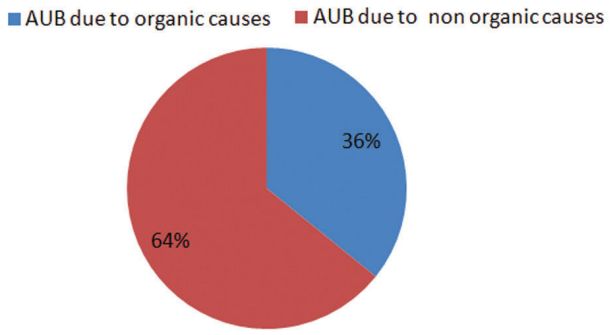


Of the 218 cases, 140 were due to functional causes as no organic pathology was found, while the remaining 78 cases showed definite endometrial pathology.(table 2)

Table 2: Distribution of cases of AUB According to Causes.

Diagnostic group	Total	Percentage
AUB due to organic causes	78	35.7
AUB due to non organic causes	140	64.3
Total	218	100

Graph 3: Causes of AUB



Based on the number and type of endometrial glands, glandular epithelial lining and stromal features, the endometrium was grouped into different categories as follows. (graph 3)

Among 140 functional cases of AUB, secretory endometrium and proliferative endometrium were the most common patterns and were seen in 54 cases (39%) and 35 (25%) cases, respectively. This was followed by 27 (19%) cases of disordered proliferative endometrium,17 (12%)cases of AUB due hormonal effect and 7 (5%)cases of irregular shedding.(table 3)

Table 3: Endometrial pattern in AUB patients with Non-Organic causes.

S.no	AUB due to non Organic Causes	No. of cases	Percentage
1	Proliferative Phase	35	25
2	Secretary phase	54	39
3	DPP	27	19
4	Irregular Shedding	7	5
5	Hormone effect	17	12
	Total	140	100

Table 4: Endometrial pattern in AUB patients with Organic causes.

S.no	AUB due to organic causes	No. of cases	Percentage
1	Endometritis	4	5.2
2	Endometrial polyp	4	5.2
3	Hyperplasia	62	79.4
4	Carcinoma	8	10.2
	Total	78	100

Amongst the 78 organic lesions causing AUB, endometrial hyperplasia was the most common and seen in 62 (73%) cases. The other organic causes of AUB observed in this study include 4 (5%) cases of endometritis , 4 (5%) cases of endometrial polyp and 8 (9%) cases of malignancy.(table 4)

Discussion

Table 5: Distribution of Cases of AUB According to Causes by Different Authors.

Authors	AUB due to non organic causes	AUB due to organic Causes
Vaidya et al.6 (2013)	307(81%)	72(19%)
Present study (2015)	140(64.3%)	78(35.7%)

Among 218 patients who presented with AUB, non organic causes were observed in 140 (64.3%) cases and AUB due organic causes were observed in 78 (35.7%) cases. This observation is similar in a study conducted by Vaidya et al. where they observed 81% of patients presented with AUB were due to Non organic Causes i.e. Dysfunctional uterine bleeding.(table 5).

The above table represents the summary of the different endometrial patterns reported by various authors. All the aforementioned studies have dealt with all causes of abnormal uterine bleeding and have shown their own respective observations of

Table 6: Distribution of Different Histopathological Patterns in AUB by Various Authors.

Histopathological diagnosis	Vaidya et al.[6](2013) N = 403	Doraiswami et al.[7](2011) n = 409	Ghani et al.[8](2013) N= 152	Sajitha et al.[9](2015) N=156	Forae et al.[10](2013) N= 231	Bhatta et al.[11](2012) N = 122	Jairajpuri et al.[12](2013) N= 638	present study (2015) n= 218
Proliferative phase	74 (18.3%)	116	23 (15.1%)	19 (12.1%)	52 (22.5%)	32 (26.2%)	159 (24.9%)	35 (16%)
Secretary phase	113 (22.5%)	(28.3%)	11 (7.2%)	26 (17.1%0	46 (19.9%)	20 (16.3%)	185 (28.9%)	54 (24.7%)
DPP	54 (13.4%)	84 (20.5%)	1 (0.6%)	19 (12.1%)	-	8 (6.5%)	37 (5.7%)	27 (12.3%)
Irregular shedding	-	-	-	-	-	-	15 (2.3%)	7 (3.2%)
Hormomal effect	25 (6.2%)	-	15 (9.8%)	12 (7.6%)	1 (0.4%)	-	11 (1.7%)	17 (7.7%)
Atrophic endometrium	-	-	-	8 (5.1%)	6 (2.5%)	9 (7.3%)	7 (1%)	-
Endometritis	13 (3.2%)	17 (4.1%)	5 (3.2%)	1 (0.6%)	3 (1.2%)	8 (6.5%)	39 (6.1%)	4 (1.8%)
Endometrial polyp	5 (1.2%)	46 (11.2%)	13 (8.5%)	8 (5.1%)	7 (3%)	3 (2.4%)	11 (1.7%)	4 (1.8%)
Pregnancy related conditions	-	93 (22.7%)	30 (19.7%)	-	68 (29.4%)	-	98 (15.3%)	Excluded From study
Hyperplasia	44 (10.8%)	25 (6.1%)	39 (25.6%)	39 (25%)	39 (16.8%)	22 (18%)	37 (5.7%)	62 (28.4%)
Endometrial carcinoma	1010 (2.4%)	18 (4.4%)	2 (1.3%)	10 (6.4%)	4 (1.7%)	7 (5.7%)	3 (0.4%)	8 (3.6%)
Miscellaneous	87 (21.5%)	10 (2.4%)	6 (3.9%)	14 (8.9%)	4 (1.7%)	13 (10.6%)	36 (5.6%)	-

non endometrial causes and endometrial causes. (table 6).

Table 7: Distribution of Normal Cyclical Pattern in Different Studies.

Authors	No. of cases	Percentage of normal cyclical patterns
Doraiswami et al.[7] (2011)	116	28.3
Jairajpuri et al.[12] (2013)	344	53.8
Vaidya et al.[6] (2013)	187	40.9
Forae et al.[10] (2013)	98	42.4
Sajitha et al.[9] (2015)	45	29.2
Present study (2015)	89	40.7

In the present study, 89(40.7%) patients had normal cyclical patterns i.e. proliferative and secretary endometrium which is the most common pattern. The bleeding in the proliferative phase may be due to anovulatory cycles and bleeding in the secretory phase is due to ovulatory dysfunctional uterine bleeding. This observation was similar to other studies conducted. 28.3% patients had normal cyclical patterns in a study conducted by Doraiswami et al. Vaidya et al. found 40.9% had normal cyclical patterns in their study. Sajitha et al. (2015), Forae et al. (2013), Bhatta et al. (2012) and Jairajpuri et al. (2013) also observed similar finding. In all these study conducted, normal cyclical pattern was most common pattern of endometrium.

In the present study, mennorhagia was the most common bleeding pattern seen in patients diagnosed with normal cyclical patterns. This finding is in well accordance with other studies conducted.(table 7)

Conclusion

Histopathological study of endometrium in women with AUB is helpful to distinguish between AUB due to organic and non organic causes. Its a age related pathology and menorrhagia was most common bleeding pattern. Curettage samples reveal the endometrial patterns which helps to exclude the

presence of any organic pathology. As endometrial cause of AUB are related, it is recommended to rule out preneoplasias and malignancy in AUB.

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