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Original Research Article

Histopathological study of Perimenopausal Abnormal Uterine Bleeding

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Abstract: 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. Endometrial assessment by endometrial biopsy or curettage is indicated in the perimenopausal and postmenopausal years in order to exclude endometrial hyperplasia or carcinoma. The aim of this study is analyzing the histo-pathological pattern of endometrium in abnormal uterine bleeding. A total of 84 patients in the age group of 40-54 years (Perimenopausal) assessed for doing this study by clinically diagnosed as abnormal uterine bleeding. Tissue obtained in the late luteal phase and sent to department of pathology for Histopathology testing. Histopathological results were evaluated and tabulated. Maximum no. of Abnormal Uterine bleeding (AUB) patients belongs to the age group of 40-45 years. Among 84 cases of AUB 71(84.5%) patients were of parity 2 or more. Histopathology of AUB patients shown that Proliferative endometrium was predominant, seen in 34 patients (40.4%) followed by endometrial hyperplasia seen in 18 patients (21.3%). Among perimenopausal age group the most common cause of AUB is found to be dysfunctional in origin about 71.4%. Out of 24 AUB patients with organic lesions, 75% had endometrial hyperplasia, 8.3% had Adenomyosis and uterine fibroids of each, 4.1% had endometritis and endometrial adenocarcinoma of each. Thorough histopathological work up and clinical correlation is mandatory in cases of abnormal uterine bleeding above the age of 40 years to find out organic pathology.
Keywords: Abnormal Uterine Bleeding, Histopathology, Perimenopausal age group.

INTRODUCTION:

The endometrium is uniquely endowed throughout the female reproductive lifespan with complex regular cycle of periodic proliferation, differentiation, breakdown and regeneration [1]. 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 [2].

The causes for AUB can be categorized into:
(A) Organic, such as genital tract infections, tumors (benign or malignant), adenomyosis, pregnancy and its complications, systemic disorders and iatrogenic accounting for 20% of cases;
(B) Dysfunctional Uterine Bleeding (DUB) caused by an ovulation or oligovulation [3] is responsible for 80% of menorrhagia [4] & diagnosed after exclusion of all conditions enumerated in (A).

Perimenopause, also called the menopausal transition, is the interval in which a woman's body makes a natural shift from more or less regular cycles of ovulation and menstruation toward permanent infertility, or menopause. Abnormal uterine bleeding is a commonly encountered gynecological problem in this age group.

Endometrial assessment by endometrial biopsy or curettage is indicated in the perimenopausal 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 [5]. Histological examination of the submitted endometrial tissue remains the standard diagnostic procedure for the assessment of abnormal uterine bleeding. In addition, accurate histo-pathological diagnosis facilitates the implementation of optimal treatment strategies [6].

In the present study the endometrial biopsy is chosen to evaluate dysfunctional uterine bleeding because it has several advantages over other diagnostic methods. The aim of this study is analyzing the histo-pathological pattern of endometrium in abnormal uterine bleeding.

MATERIALS AND METHODS:

The present study has done in Community Health Center at Veldurthi, Kurnool district for two years which is a prospective study in 2011 and 2012 after taking informed consent from patients.

A total of 84 patients in the age group of 40-54 years (Perimenopausal) assessed for doing this study by clinically diagnosed as abnormal uterine bleeding. Patients presenting with Coagulation and platelet abnormalities, AUB due to pregnancy related complications.

Clinical history has taken from all patients in detail along with significant history such as parity, Delivery details, bleeding pattern, any evidence of thyroid disorders, family history of bleeding disorders or carcinomas. General, systemic and gynaecological examination was done and a clinical diagnosis of abnormal uterine bleeding was made.

Under aseptic precautions, local anesthesia has given and endometrial tissue obtained in the late luteal phase. Endometrial tissue sent to department of pathology for Histopathology testing, Histopathological results were evaluated and tabulated, and patients are treated accordingly.

Patients with anovulatory AUB were treated with cyclical progestins 14 days a month or Levonorgestrel intrauterine system. Patients with small fibroids and adenomyosis were also treated with hormonal therapy.

Patients with secretory endometrium were treated with antifibrinolytics.

Patients with simple hyperplasia were given 10 mg/d Medroxyprogesterone acetate orally 14 days in 2nd half of menstrual cycle per month for 3 months. Patients with atypia were given 30mg/day Medroxyprogesterone acetate orally continuously for 3 months. Endometrial Curettage was repeated after hormone therapy for 3months.

RESULTS:

The total numbers of patients studied were 84 for 2 years. Maximum no. of Abnormal Uterine bleeding (AUB) patients belongs to the age group of 40-45 years (Table No: 1).

Table-1: Distribution of patients according to age

Age in years	No. of patients	Percentage (%)
40-45	58	69
46-50	24	28.5
51-54	2	2.3
Total	84	100

Parity of women was influenced AUB in Perimenopausal age where it was noted that multiparas who conceived 2 or more times had greater incidence of AUB (Table No: 2). Among 84 cases of AUB 71(84.5%) patients were of parity 2 or more. Nulliparous were only 3.

Table-2: Distribution of patients according to parity

Parity	No. of patients	Percentage (%)
Nulliparous	3	3.5
1	10	11.9
2	26	30.9
3	29	34.5
4	14	16.6
>4	2	2.3
Total	84	100

Histopathology of AUB patients shown that Proliferative endometrium was predominant, seen in 34 patients (40.4%) followed by endometrial hyperplasia seen in 18 patients (21.3%). One patient had endometrial carcinoma (Table No.3).

Table-3: Distribution of patients according to histopathology

Histopathological finding	No. of cases	Percentage (%)
Proliferative	34	40.4
Secretory	11	13
Endometrial hyperplasia		
• Simple hyperplasia		
Without atypia	13	15.4
With atypia	3	3.5
• Complex hyperplasia		
Without atypia	2	2.3
With atypia	0	
• Cystic glandular hyperplasia	17	20.2
Irregular shedding	2	2.3
Endometritis	1	1.1
Well differentiated adenocarcinoma	1	1.1
Total	84	

Among 34 patients who had proliferative endometrium, maximum number of patients about 16 (47%) had endometrial thickness of 4-5.9 mm (Table No.4).

Table-4: Proliferative Phase (n-34)

Endometrial thickness (in mm)	No. of patients (n=34)	Percentage (%)	Mean	Standard deviation
<2	1	2.9	4.13mm	1.42
2-3.9	11	32.3		
4-5.9	16	47		
6-7.9	4	11.7		
>7.9	2	5.8		

Among 11 patients who had secretory endometrium 18.2% had endometrial thickness between 4-5.9mm, 72.7% had endometrial thickness between 6-7.9mm, 9.1% had endometrial thickness >7.9mm (Table No.5).

Table-5: Secretory Phase (n-11)

Endometrial thickness(in mm)	No. of patients	Percentage (%)	Mean	Standard deviation
2-3.9	-	-	6.31mm	1.04
4-5.9	2	18.2		
6-7.9	8	72.7		
>7.9	1	9.1		

All 18 patients with simple and complex hyperplasia had endometrial thickness of more than 7.9 mm. Most of them about 44.4% had endometrial thickness of 12-13.9 mm (Table No.6).

Table-6: Endometrial Hyperplasia (n-18)

Endometrial thickness	No. of patients	Percentage (%)	Mean	SD
4-5.9	-		12.3 mm	3.87
6-7.9	-	-		
8-9.9	02	10.0		
10-11.9	03	16.6		
12-13.9	08	44.4		
14-15.9	02	10.0		
>15.9	03	15.0		

Among perimenopausal age group the most common cause of AUB is found to be dysfunctional in origin about 71.4% (FigNo.1).

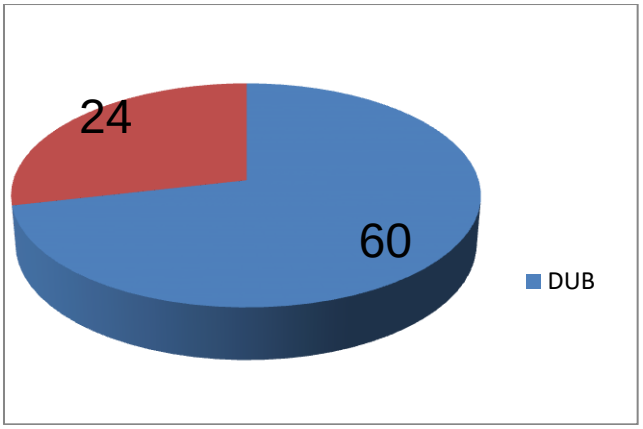

Fig-1: Distribution of patients according to cause of AUB

Out of 24 AUB patients with organic lesions, 75% had endometrial hyperplasia, 8.3% had Adenomyosis and uterine fibroids of each, 4.1% had endometritis and endometrial adenocarcinoma of each (Fig No.2).

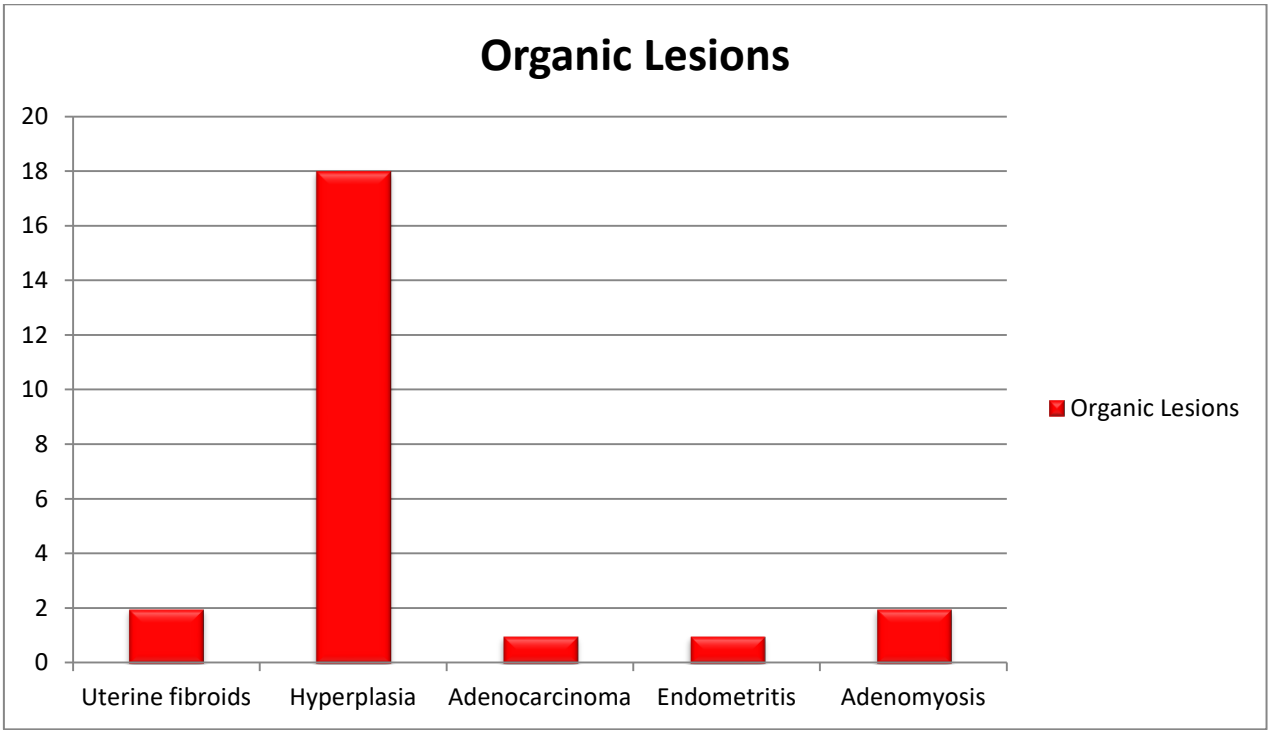

Fig-2: Distribution of patients with Organic lesions

All AUB patients were treated by medical management. Their response to treatment was assessed (Table No.7). Adenomyosis had shown no response to treatment. Endometrial Adenocarcinoma was treated surgically.

Table-7:- Distribution of patients according to response to medical management

Cause of AUB	Total no. of patients	No. of patients responded	No. of patients not responded
Idiopathic	60	56	4
Uterine fibroids	2	1	1
Endometrial hyperplasia • Simple hyperplasia Without atypia With atypia • Complex hyperplasia Without atypia With atypia	 13 3 2 -	 10 2 1	 3 1 1
Endometrial adenocarcinoma	1	-	-
Endometritis	1	1	-
Adenomyosis	2	-	2
Total	84	71	12

DISCUSSION:

Although hysteroscopic evaluation is the gold standard for AUB, endometrial curettage continues to be performed in public hospitals. Endometrial sampling is a preferred procedure for diagnosis of the endometrial pathology Balik *et al.;* [7] and endometrial curettage is a valuable and cost-effective technique for evaluation of intrauterine pathologies that clearly demonstrates the hormonal response of the endometrium and provides beneficial information regarding atrophy, infections, or other lesions.

The total numbers of patients studied were 84 for 2 years. Maximum no. of Abnormal Uterine bleeding (AUB) patients belongs to the age group of 40-45 years in this study. Bhoomika Dadhania and Gauravi Dhruva *et al.;* [8] 150 endometrial lesions diagnosed on histopathology were selected and they found that the most common age group presenting with DUB was 41–50 years (40.6%).

Parity of women was influenced AUB in Perimenopausal age where it was noted that multiparas who conceived 2 or more times had greater incidence of AUB. Among 84 cases of AUB 71(84.5%) patients were of parity 2 or more. Nulliparous were only 3.

In present study of perimenopausal age group, 40.4% of proliferative endometrium was observed which is very much in alliance with study done by Rajshri P. Damle *et al.;* [9] reported 34.09% while Sujata Jetley *et al.;* [10] reported 30.6% of proliferative endometrium in peri-menopausal age group study.

Bleeding in the proliferative phase may be due to anovulatory cycle, such cases shows progressive rise of estrogen to comparatively high levels, which is then followed by a sudden fall in estrogen due to feedback inhibition of pituitary or of FSH secretion and bleeding results.

The second most common in this study was endometrial hyperplasia, both simple and complex (21.4%) which is in concordance with Rajshri P. Damle *et al.;* [9] (23.86%), Dangal G *et al.;* [11] (23%) and Slobada L *et al.;* [12] (22.6%), Khare *et al.;* [13] (36.2%) observed high incidence of endometrial hyperplasia in 40-49 years of age group.

Usha G. Doddamani *et al.;* [14] documented that DUB was the most common clinical diagnosis followed by fibroid uterus. Histopathological report revealed that endometrium was proliferative in 44.7% and secretary in 23.5% of cases. Endometrial hyperplasia was seen in 9.4% of cases.

Nuzhat and sumera *et al.;* [15] observed that the most common histological pattern was chronic endometritis followed by simple hyperplasia among 236 study group. They concluded that histological pattern of endometrium in patients with abnormal bleeding is quite variable and the main reason for endometrial sampling is to confirm the benign nature of the problem by ruling out endometrial cancer.

Abdullah LS *et al.;* [16] revealed that secretory and proliferative endometrium is the most common endometrial histopathological patterns identified in endometrial samples obtained for abnormal uterine bleeding.

In the present study, maximum number of patients with endometrial thickness about 4-5.9 mm and 6-7.9 mm observed in proliferative and secretory endometrium respectively. All 18 patients with simple and complex hyperplasia had endometrial thickness of more than 7.9 mm. Most of them about 44.4% had endometrial thickness of 12-13.9 mm. endometrial thickness varies on varying the pathology of AUB.

In the present study, among perimenopausal age group the most common cause of AUB is found to

be dysfunctional in origin (idiopathic) about 71.4%. Out of 24 AUB patients with organic lesions, 75% had endometrial hyperplasia, 8.3% had Adenomyosis and uterine fibroids of each, 4.1% had endometritis and endometrial adenocarcinoma of each.

In a similar study including patients of all ages, benign findings included disordered proliferation (93.4%), polyps (3.9%), hyperplasia (2.5%), and malignancy (0.7%) Soleymani *et al.;*[17]. In a study by Simender Mesci-Haftaci *et al.;* [18] was found that the majority of patients had benign findings (44.8%), followed by polyps (30%), endometrial hyperplasia (24%) and adenocarcinoma (1.2%).

All AUB patients were treated by medical management. Their response to treatment was assessed. 93.3% of Idiopathic cases, 50% of uterine fibroids, 72.2% of endometrial hyperplasia patients and 100% of endometritis patients responded to medical treatment. Adenomyosis had shown no response to treatment. Endometrial Adenocarcinoma was treated surgically. Medical treatment especially progestins are very useful in treating the patients with abnormal uterine bleeding.

CONCLUSION:

Abnormal uterine bleeding in perimenopausal women is most commonly dysfunctional in origin. However, a significant number show underlying organic pathologies. Dilatation and curettage is helpful to exclude other organic pathology, which mimic DUB like endometrial polyp, endometritis. Hence a thorough histopathological work up and clinical correlation is mandatory in cases of abnormal uterine bleeding above the age of 40 years to find out organic pathology.

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