Original research article

International Journal of Medical Science and Education | pISSN- 2348 4438 | eISSN-2349- 3208

STUDY OF HISTOMORPHOLOGICAL SPECTRUM OF ENDOMETRIUM IN PATIENTS PRESENTING WITH ABNORMAL UTERINE BLEEDING

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Received: 22/08/2015 ***Revised: 02/12/2015*** ***Accepted: 16/12/2015***

ABSTRACT:

Background: abnormal uterine bleeding is a very common complaint in gynecology OPD in all age groups. Histomorphological diagnosis is essential for workup of abnormal uterine bleeding. Dysfunction uterine bleeding is a clinical term used to describe bleeding not attributable to organic cause. **Aim**-To study histomorphological spectrum of endometrial samples from patients of abnormal uterine bleeding. **Material & methods**: A total of 279 endometrial samples of AUB were studied over the period of 4 years. Samples were received in 10% formalin and processed. Sections were stained by H & E stain. Patients were catogorised into reproductive (<40years), perimenopausal (40-50years) and post menopausal (>50years) age groups. Histopathological diagnosis was made and further categorization was done for all the cases. **Results:** A total of 279 cases were evaluated. Out of which maximum 166 cases belongs to perimenopausal group(40-50years).Predominant finding overall was proliferative endometrium 47.3%.In reproductive age group proliferative endometrium is most common cause. In perimenopausal age group apart from proliferating and secretory patterns, simple hyperplasia without atypia was also an important cause for DUB. In postmenopausal age group (>50 years) Atrophy and malignancy apart from Proliferating endometrium were the predominant causes. **Conclusion:** The histopathological diagnosis shows various findings which may vary with the age ranging from normal proliferating endometrium to malignancy. So histopathological examination is mandatory in abnormal uterine bleeding, as specific diagnosis can help the physician to successfully manage the patients.

Key words: Dysfunctional uterine bleeding, abnormal uterine bleeding, proliferative phase.

INTRODUCTION:

Menstrual disorders are a common indications for medical visits among women of reproductive age(**1**) and heavy menstrual bleeding affects up to 30% of women throughout their reproductive lifetime.(**2**).Normal menstruation is defined as bleeding from secretory endometrium –associated with an ovulatory cycle-not exceeding a length of 5 days.(**3**).Abnormal uterine bleeding(**AUB**) may be defined as any variation from the normal menstrual cycle and includes changes in regularity & frequency

of menses, in duration of flow ,or in amount of blood loss.(**4**) .Bleeding not associated with organic causes is known as dysfunction uterine bleeding.(**4**). DUB is classified into anovulatory and ovulatory bleeding, as this helps in understanding the underlying pathology and its management. (**5**)DUB is a diagnosis of exclusion. The importance of correlating the morphological features of an EMB with the clinical findings –whatever the indications for sampling cannot be overemphasized. Normal endometrial morphological characteristics can be associated with various abnormal clinical states. (**6**)

The study was carried out to evaluate the histomorphological spectrum of endometrium in female patients presenting with abnormal uterine bleeding and to determine the specific pathology in different age groups.

MATERIAL AND METHODS

The present study was done in Department of Pathology, Jhalawar medical college, Jhalawar Rajasthan. Total of 279 cases were studied over a period of 4 years. (Jan 2010 to December 2013) .Patients with isolated endometrial causes of AUB was included. Other patients with vaginal & cervical pathology, leiomyomas, vesicular moles. Products of conception and hemostatic disorders were not included in the study. Inadequate samples were excluded from the study. Hysterctomy cases with complaints of DUB were also excluded .Tissue analysed included specimen of endometrium obtained by D&C(dilatation and curettage) and endometrial biopsy send from the gynaecology department in 10% formalin. The tissue was processed in automatic tissue processor and paraffin blocks were made. Tissue sections (upto 5 microns) were cut and stained with H & E (haematoxylin and Eosin).Patients were categorised into reproductive (<40yrs), perimenopausal (40-50yrs) and post menopausal (>50yrs) age groups. Histopathological diagnosis was made and further categorization was done for all the cases.

RESULTS:

A total number of 279 samples were diagnosed during the study. Patients were categorised into reproductive age group (<40 years.) perimenopausal age group (40-50years) and postmenopausal age group.>50 years.).Out of 279 cases 95 cases are of <40 years; 166 cases of perimenopausal age group &18 cases were >50 years.

AUB was most commonly recorded in perimenopausal age group. The predominant histomorphological pattern seen was proliferative endometrium (47.3%) followed by secretory pattern (29.9%)

In reproductive age group (table3) most common pattern was proliferative endometrium (41.05%) followed by secretory pattern (36.8%) & simple hyperplasia without atypia (8.6%).

The following findings were recorded in the tables 1 to 5.

Table 1: Profile of patients presenting with AUB-

<40 years	**40-50 years**	**>50 years**
95	166	18
34%	59.5%	6.4%

Table 2 Histopathological diagnosis of endometrial specimen

Diagnosis	No of patients	Percentage %
Proliferative phase	132	47.3
Secretory phase	81	29.0
Simple hyperplasia without atypia	28	10.0
Atrophy	13	4.65
Menstrual	09	3.22
Disordered proliferation	07	2.5
Mixed	05	1.8
Chronic endometritis	01	0.35
Tubercular endometritis	01	0.35
Complex hyperplasia without atypia	02	0.7
TOTAL	279	

Table 3 Endometrial pattern in reproductive age group (less than 40 years)

Diagnosis	Number of patients	Percentage
Proliferative endometrium	39	41.05%
Secretory	35	36.8%
Simple hyperplasia without atypia	08	8.4%
Atrophy	00	00%
Menstrual	03	3.1%
Disordered proliferation	03	3.1%
Mixed	02	2.10%
Chronic endometritis	01	1.05%
Tubercular endometritis	01	1.05%
Complex hyperplasia without atypia	01	1.05%
Malignant	01	1.05%
TOTAL	95	

Table 4: Endometrial pattern in perimenopausal group. **(40-50 years)**

Diagnosis	Number of patients	Percentage
Proliferative phase	89	53.6
Secretory phase	40	24
Simple hyperplasia without atypia	18	10.8
Atrophy	06	3.61

Menstrual	06	3.61
Disordered proliferation	03	1.8
Mixed	03	1.8
Chronic endometritis	00	00
Tubercular endometritis	00	00
Complex hyperplasia without atypia	00	00
Malignancy	01	0.6
TOTAL	166	

Table 5 endometrial patterns in post menopausal group (**more than 50**)

Diagnosis	Number of patients	Percentage
Proliferative phase	04	22.22
Secretory phase	02	11.11
Simple hyperplasia without atypia	01	6.5
Atrophy	06	33.33
Menstrual	00	00
Disordered proliferation	01	6.5
Mixed	00	00
Chronic endometritis	00	00
Tubercular endometritis	00	00
Complex hyperplasia without atypia	01	6.5
Malignancy	03	16.6
Total	18	

In perimenopausal age group (table 4) the predominant pattern is again proliferative endometrium (53.6%) with secretory pattern (24%) followed by simple hyperplasia without atypia. (10.8%) Atrophy of endometrium is also (3.61%) an important cause of AUB in this age group. In postmenopausal age group (table5) atrophy of endometrium is the most common because (33.33%) followed by proliferative endometrium (22.22%) and malignancy16.6%.Complex hyperplasia without atypia (6.5%) was also found in this age group. All cases of malignancy were endometrial adenocarcinomas.

DISCUSSION

In the current study a total of 279 endometrial samples were processed and histomorphic findings were recorded. Dysfunction uterine bleeding is a diagnosis of exclusion in which no specific organic cause can be found as a reason for bleeding. In our study 59.5% patients were from perimenopausal age group (40-50) which were lower than 89.13% Sagar S (7) as compared to Rajshree Damle et al(73.94%).(8) The incidence of AUB was more in perimenupausal age group than postmenopausal age group. the reason may be due to earlier evaluation and treatment of those patients.

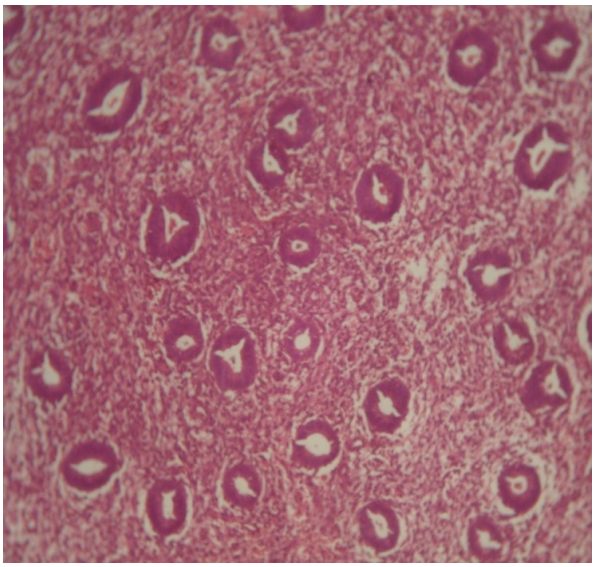

Figure 1.proliferative endometrium(10 X)

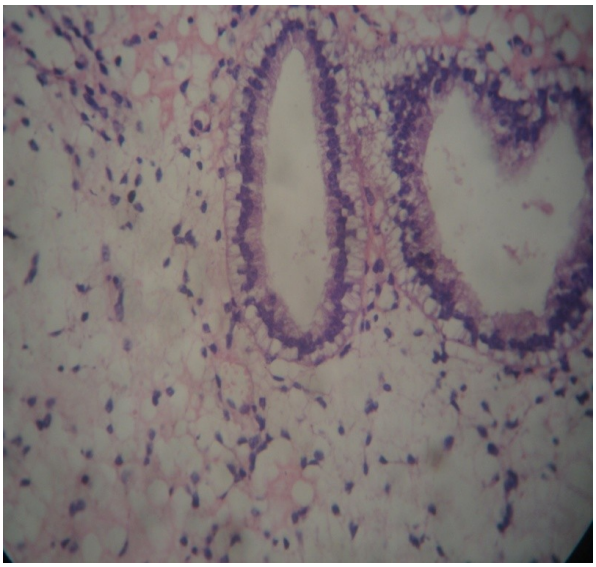

Figure 3 –glands showing subnuclear vacuolation(40X)

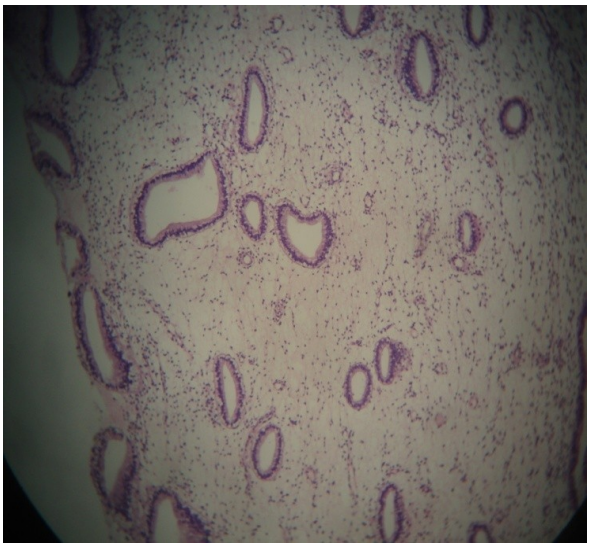

Figure 2 early secretory phase(10X) glands showing subnuclear vacuolation and edematous stroma .

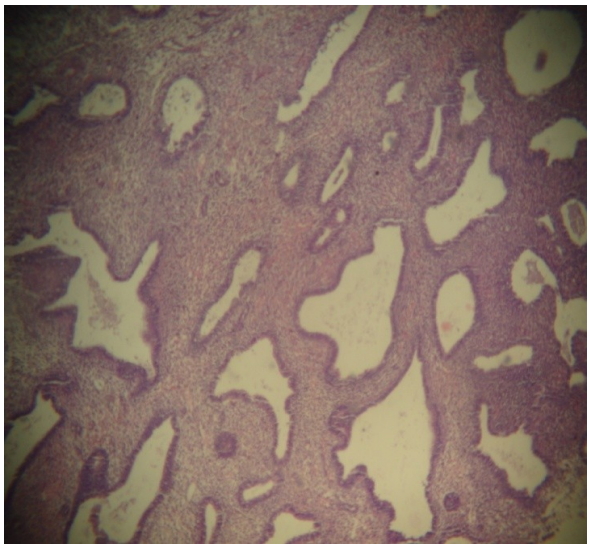

Figure 4 hyperplastic endometium without atypia(10X)

In reproductive age group proliferative (41.05%) and secretory pattern 36.8% were comparable though lower than A.Salvi (47.27%) (9). Bleeding in the secretory pattern is due to ovulatory dysfunction uterine bleeding. It is due to inability of the corpus luteum to synthesize adequate amount of progesterone. Simple hyper plasia without atypia in reproductive age group is 8.6% as compared to A Khare (20.7%) (10).Single case of malignancy and one case of complex hyperplasia which is rare for this age group (<40 yrs.) was also noted.

In the perimenopausal age group most common pattern was proliferative pattern (53.6%). It is comparable with A.Salvi (53.08%) (9) but higher

than Khare 21.2% (10) Damle R P et al 35.09 %(8)and Dangal G 38.5%(11). Bleeding in proliferative phase may be due to anovulatory cycle in such cases shows progressive rise of estrogen to high levels which is then followed by a sudden fall in estrogen due to feedback inhibition of pituitary or FSH secretion and bleeding results.

Simple hyperplasia without atypia was found in 18 out of 166 patients (10.6%) in perimenopausal age group, it was lower than Dangal G (23%) (11).It is commonly seen in perimenopausal age group due to failure of ovulation. Endometrium is exposed to excessive and prolonged estrogenic action leading to hyperplasia.

Atrophic endometrium was predominantly seen in post menopausal age group (33.33%) Atrophy of endometrium occurs as a consequence of prolonged absence of any endogenous or exogenous estrogen stimulation. In postmenopausal age group 22.22% show proliferating endometrium.

Malignancy is higher in postmenopausal age group (6.6%) as compared to perimenopausal female 0 .6%.similar results were also reported by Dangal G (11) & khare et al (10)

CONCLUSION

The histopathological diagnosis of endometrial samples in abnormal uterine bleeding shows various findings though they may vary with the age. It may range from normal proliferating endometrium to malignancy. The present study recorded proliferative endometrium as most common cause in reproductive age group though secretory pattern was not much behind. In perimenopausal age group however the proliferating endometrium is predominant finding with hyperplastic endometrium also becoming important in this age group. In postmenopausal age group Atrophy & Malignancy were important causes .So histopathological examination is mandatory in abnormal uterine bleeding, as specific diagnosis can help the physician to successfully manage the patients.

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