International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor (2018): 7.426

Histopathological Evaluation of Endometrial Tissue in Abnormal Uterine Bleeding

Dr Ritu Bhagat[1], Dr Chiterlekha Kundal[2], Dr Subhash Bhardwaj[3]

[1]Demonstrator, Postgraduate Department of Pathology, GMC Jammu, India

[2]Postgraduate Department of Pathology, GMC Jammu, India

[3]Professor, Postgraduate Department of Pathology, GMC Jam, Indiamu

Abstract: ***Background: The abnormal uterine bleeding can be caused by a wide variety of disorders and it is one of the commonest complaints leading to endometrial sampling. It may represent a normal physiological state, and observation alone may be warranted. Alternatively, the bleeding can be a sign of a serious underlying condition necessitating aggressive treatment. Material and Methods: The study was conducted in the histopathology section of the Department of Pathology GMC Jammu. Study material included all endometrial curettings and endometrial biopsy specimen received in the histopathology section. Results: Age of patients ranged from 14 to 75 years. . In this study maximum number of cases were in age group 31-40 years i.e 188 cases (40.43%).Various patterns on histopathology were secretory endometrium(170 cases) the commonest followed by proliferative endometrium(99 cases),endometrial hyperplasia (42cases),products of conception(27 cases).6 cases of endometrial carcinoma and 4 cases of squamous cell carcinoma were reported. Conclusion: Histopathological examination of endometrial tissue in patients of abnormal uterine bleeding shows a wide spectrum of changes ranging from normal endometrium in various hormonal cycles to malignancy. So it is a major diagnostic tool in evaluation of abnormal uterine bleeding.***

Keywords: Abnormal Uterine Bleeding, Endometrium, Histopathology

1. Introduction

Any uterine bleeding which is deviation from normal regular, predictable menstrual cycle with average and predictable amount and duration of bleeding is labelled as abnormal uterine bleeding. The abnormal bleeding can be caused by a wide variety of disorders and it is one of the commonest complaints leading to endometrial sampling. It may represent a normal physiological state, and observation alone may be warranted. Alternatively, the bleeding can be a sign of a serious underlying condition necessitating aggressive treatment.[1] Since endometrium is the best accessible tissue for histopathological evaluation of uterine bleeding, Several methods are used for endometrial sampling among which dialatation and curettage is considered to be method of choice.[2]

2. Material and Methods

The study was conducted in the histopathology section of the Department of Pathology Government Medical College, Jammu and was conducted in two parts. Retrospective study for a period of five years and prospective study for a period of one year. Study material included all endometrial curettings and endometrial biopsy specimen received in the histopathology section. All specimen submitted were grossed meticulously and properly processed. The sections were stained routinely with H&E. The clinical presentation including the age of patient and the endometrial histology were correlated and results compared with those in literature.

3. Results

A total of 465 cases of AUB were included in the study. Based on their age, the patients studied were categorized into five groups (table 1). Patients with AUB ranged from 14 to 75 years. In this study maximum number of cases were in age group 31-40 years i.e 188 cases (40.43%) followed next by age group of 41-50 years i.e 160 cases (34.40%).

Table 1: Age distribution

S. No	Age (years)	Number of cases	Percentage
1	Below 20	04	0.86%
2	21 to 30	93	20%
3	31 to 40	188	40.43%
4	41 to 50	160	34.40%
5	50 and above	20	4.30%
	Total	465	100%

Table 2: Distribution of Endometrial Lesions According to Histopathological Diagnosis

S. No	Histopathological diagnosis	Number of cases	Percentage
1	Functional lesions	369	79.35%%
2	Endometrial polyps	07	1.5%
3	Leiomyomata	02	0.43%
4	Chronic endometritis	07	1.5%
5	Products of conception	27	5.80%
6	Hydatiform Mole	01	0.21%
7	Endometrial hyperplasia	42	9.03%
8	Endometrial carcinoma	06	1.29%
9	Squamous cell carcinoma	04	0.86%
	Total	**465**	**100%**

The various functional lesions observed in abnormal uterine bleeding are summarized in Table 3.

Table 3: Patterns of Functional Lesions in Abnormal Uterine Bleeding

S. No	Histopathological diagnosis	Number of cases	Percentage
1	Proliferative endometrium	99	21.29%
2	Secretory endometrium	170	36.55%
3	Menstruating endometrium	07	1.50%
4	Mixed endometrium	03	0.64%
5	Disordered proliferative phase	44	9.4%
6	Anovulatory cycle	26	5.59%
7	Stromal glandular asynchrony	03	0.64%
8	Hormonal effect	17	5.65%

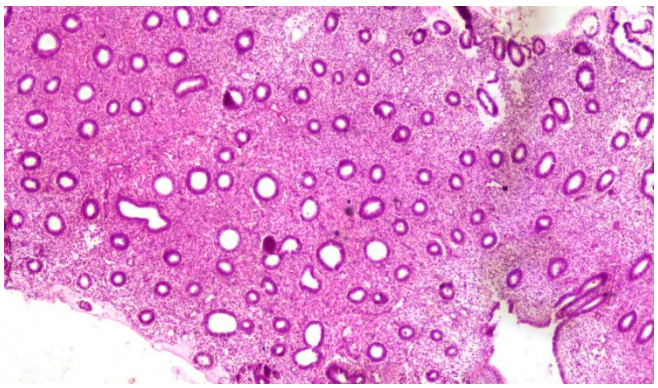

Figure 1: Photomicrograph from proliferative endometrium showing small compact glands in a dense stroma (H&E, X40).

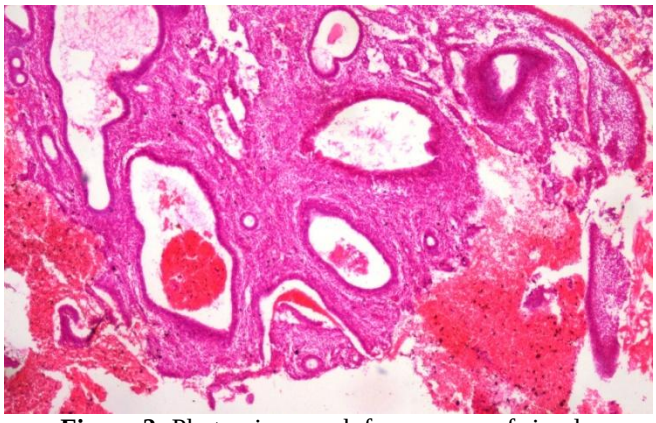

Figure 2: Photomicrograph from a case of simple hyperplasia showing large dilated endometrial glands. No nuclear stratification or atypia seen (H&E, X100).

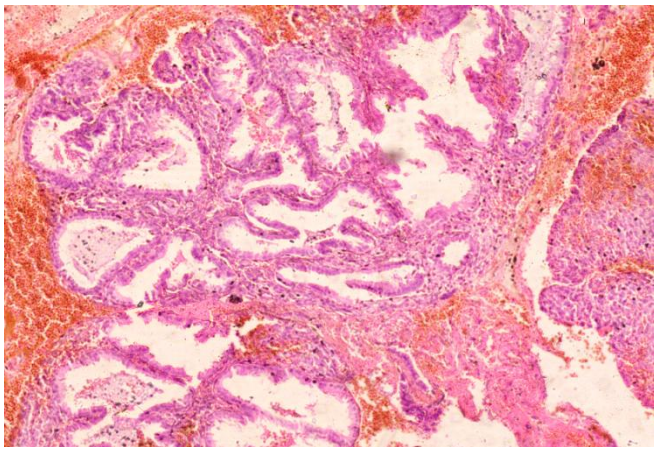

Figure 3: Photomicrograph from a case of complex hyperplasia of endometrium showing papillary infoldings. No atypia seen (H&E, X100)

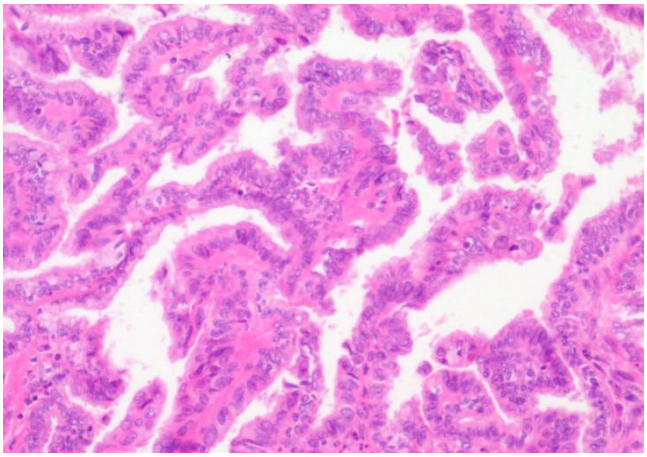

Figure 4: Higher magnification of above showing well formed papillae having fibrovascular core and lined by single layer of epithelial cells (H&E, X100)

4. Discussion

Histopathological evaluation of endometrial samples plays a significant role in the diagnosis of abnormal uterine bleeding. The underlying disease can be detected by the histological variations of endometrium taking into account the age of women, the phase of her menstrual cycle and use of any exogenous hormones.[3]

In the present study histological findings of 465 endometrial curettings are compared with other studies as follows:-In our study age of patients ranged from 14 to 75 years. Maximum patients fell in the age group of 31 to 41 years (40.43%) followed by 41 to 50 years (34.40%).Similar results seen by **Shilpa &Subramanya (34.3%,36.2%) and Sajjad M *et al* (39.4%,32.9%) .**

The commonest histopathological diagnosis was secretory endometrium (36.55%) followed by proliferative endometrium (21.29%). Reason for this finding is that in majority of cases of AUB, a premenstrual curettage or biopsy was done. These findings were in accorndance with the studies by **Abdullah LS *et al*(24.9%,21.7%), Jairajpuri ZS *et al*(28.9%,24.9%)and**, **Jetley S *et al*(32.4%,30.6%).** Bleeding in secretory phase is due to ovulatory dysfunctional and is characterized by regular episodes of heavy menstrual blood loss..

Endometrial hyperplasia is a common diagnosis especially in perimenopausal women often causing symptoms of irregular or prolonged bleeding due to anovulatory cycles in majority of cases. Heavy bleeding is secondary to sustained levels of estrogens. The overgrowth not only affects glands and stroma but there is also abnormal vascularisation. [8]In the present study overall incidence of endometrial hyperplasia was 9.03.Similar results were seen in studies conducted by **Moghal N (11%), Bhatta S & Sinha AK (18.3%),**and **Forae GD & Aligbe JU (**14%**).** Pregnancy is the first consideration in women of childbearing age who presents with abnormal uterine bleedings. In our study, patients with pregnancy related bleeding were seen in 6% cases, 01 case of Hydatiform Mole was also included in this study.

Similar results were seen by **Baral R & Pudasaini S(** 5%) and **Sajjad M *et al*** with 9.41% cases. In our study a total of seven cases (1.5%) of endometrial polyps were seen.This is in concordance with **Jetley S *et al(*** 2.7%) and **Jairajpuri ZS *et al***with 1.72%cases.

Chronic endometritis is defined as presence of plasma cell in addition to lymphocyte in endometrial stroma.In our study seven cases (1.5%) of chronic endometritis were seen.This is in concordance with studies by **Moghal N (** 3.28%) , **Baral R & Pudasaini S (** 2.7%) and **Dadhania B *et al*** with 2% cases .

The malignant lesions observed in our study were six cases (1.29%) of endometrial carcinoma and four cases (0.86%) of squamous cell carcinoma. Out of total six cases of endometrial carcinoma,04 cases were of endometrioid carcinoma, 01 case each of adenosquamous carcinoma and papillary serous carcinoma were observed.Our results were in concordance with studies by **Moghal N (**0.44%), **Abdullah LS & Bondagji NS *et al* (**1.8%), **Ghani NA *et al* (**2.1%) and **Dadhania B *et al*** with 2.6% cases Finding squamous cell carcinoma in endometrial curettings could be because of two reasons, either it is primary cancer of cervix which is extending to the endometrium or it is primary squamous cell carcinoma of endometrium which is extremely rare. Squamous cell carcinoma was observed in four cases (0.86%). All cases were seen in postmenopausal age group i.e 4 cases(8.51%).This finding was consistent with the findings of **Ara S & Roohi M** who reported an incidence of 1.24%.

5. Conclusion

Histopathological examination of endometrial tissue in patients of abnormal uterine bleeding shows a wide spectrum of changes ranging from normal endometrium in various hormonal cycles to malignancy. So it is a major diagnostic tool in evaluation of abnormal uterine bleeding. Since endometrial hyperplasia is a precursor of endometrial carcinoma, histopathological examination of endometrium should be done generously in women presenting with abnormal uterine bleeding especially after the age of 40 years to rule out malignant pathology.

References

[1] **Jairajpuri ZS, Rana S, Jetley S.** Atypical uterine bleeding Histopathological audit of endometrium A study of 638 cases. *Al Ameen J Med Sci* 2013: 6(1): 21-8.
[2] **Abid M, Hashmi AA, Malik B, Haroon S, Faridi N, Edhi MM, Khan M.** Clinical pattern and spectrum of endometrial pathologies in patients with abnormal uterine bleeding in Pakistan:need to adopt a more conservative approach to treatment. *BMC Womens Health* 2014;14.
[3] **Oehler MK, MacKenzie I, Kehoe S, Rees MC.** Assessment of abnormal bleeding in menopause women:an update. *J Br Menopause Soc* 2003;9(3):117-120.
[4] **Shilpa, Subramanya.** Study of endometrial pathology in abnormal uterinebleeding. *IJSR* 2014;3(8):490-2.
[5] **Sajjad M, Khattak ST, Ghafoor A, Khan ZA, Akram M**. Histological patterns of endometrial lesions in endometrial curettage specimens of abnormal uterine bleeding patients. *JSZMC* 2015;6(3):820-23.
[6] **Abdullah LS, Bondagji NS.** Histopathological Pattern of Endometrial Sampling Performed for Uterine Bleeding. *Bahrain Med Bull* 2011;33(4).
[7] **Jairajpuri ZS, Rana S, Jetley S.** Atypical uterine bleeding Histopathological audit of endometrium A study of 638 cases. *Al Ameen J Med Sci* 2013: 6(1): 21-8.
[8] **Takreem A, Danish N, Razaq S.** Incidence of endometrial hyperplasia in 100 cases presenting with polymenorrhagia/menorrhagia in perimenopausal women. *J Ayub Med Coll Abbotatabad* 2009;21:60-3.
[9] **Moghal N**. Diagnostic Value of Endometrial Curettage in Abnormal Uterine Bleeding - A Histopathological Study. *JPMA* 1997; 47(12): 295-99.
[10] **Bhatta S, Sinha AK**. Histopathological study of endometrium in abnormal uterine bleeding. *J Path Nepal* 2012;2:297-300.
[11] **Forae GD, Aligbe JU**. Histopathological Patterns of Endometrial Lesions in Patients with Abnormal Uterine Bleeding in a Cosmopolitan Population. *J Basic Appl Sci*2013; 2(2).
[12] **Baral R, Pudasaini S**. Histopathological pattern of endometrial samples in abnormal uterine bleeding. *J Path Nepal* 2011; 1: 13-6.
[13] **Jetley S, Rana S, Jairajpuri ZS**. Morphological spectrum of endometrial pathology inmiddle-aged women with atypical uterine bleeding: A study of 219 cases. *J Midlife Health* 2013; 4(4).
[14] **Baral R, Pudasaini S**. Histopathological pattern of endometrial samples in abnormal uterine bleeding. *J Path Nepal* 2011; 1: 13-6.
[15] **Dadhania B, Dhruva G, Agravat T, Pujara K**. Histopathological study of endometrium in dysfunctional uterine bleeding. *Int J Res Med* 2013; 2(1): 20-4.
[16] **Ghani NA, Abdulrazak AA, Abdullaha EM** . Abnormal Uterine Bleeding: a Histopathological Study. *World research journal of clinical pathology* 2012; 1(1): 6-8.
[17] **Ara S, Roohi M.** Abnormal uterine bleeding:Histopathological diagnosis by conventional dilatation and curettage. *Prof Med J* 2011;18:587-91.