



## Histopathological study of endometrial biopsies in women presenting with abnormal uterine bleeding

Authors

**Dr Moizah Najam\*, Dr Bharathi M**

Department of Pathology, Mysore Medical College and Research Institute, Mysuru, Karnataka, India

\*Corresponding Author

**Dr Moizah Najam**

Department of Pathology, Mysore Medical College and Research Institute, Mysuru, Karnataka, India

Phone number-9886241305, Email: [moiz15star@gmail.com](mailto:moiz15star@gmail.com)

### Abstract

*Abnormal uterine bleeding (AUB) is the most common presenting complaint in women attending the gynaecological outpatient department. Endometrial sampling could be used as the first diagnostic step in the evaluation of AUB. This study is done to evaluate histopathology of endometrium for identifying the various endometrial causes of AUB. Patients who presented with AUB and had undergone endometrial sampling are studied. A total of 180 cases are included in this study. Out of 180, 35 cases were excluded due to inadequate sampling. The age groups are categorised into reproductive (21-40years), perimenopausal (41-50 years), postmenopausal (>50years). The most common age group presenting with AUB in our study is perimenopausal group (44.13%). The most common pattern in this age is proliferative endometrium (32.81%). The most common cause in reproductive age group is also proliferative endometrium (48.33%), whereas that in the post-menopausal age group is Hyperplasia without atypia (33.33%). The other causes identified in various age groups are endometrial polyp (2.7%), retained products of conception (1.37%), hyperplasia without atypia (17.93%), hyperplasia with atypia (2.06%) and endometrial carcinoma (6.89%). A thorough histological study of endometrial biopsies can be used as first diagnostic step in evaluating the cause of AUB especially in postmenopausal women who are at increased risk for developing carcinoma.*

**Keywords:** Abnormal uterine bleeding (AUB), proliferative endometrium, hyperplasia without atypia.

### Introduction

AUB is defined as a bleeding pattern that differs in frequency, duration and amount from a pattern observed during a normal menstrual cycle or after menopause<sup>1</sup>. It contributes to about one-third of all outpatients coming to gynaecology OPD<sup>2,3</sup>. Causes include functional causes like normal cyclical endometrium, abnormal physiological changes of endometrium (atrophic endometrium,

disordered proliferative) and organic lesions like hyperplasia, polyp, carcinomas and pregnancy related complications. Dysfunctional uterine bleeding is defined as a type of AUB where no underlying cause can be defined<sup>4</sup>. It can be diagnosed after exclusion of structural, iatrogenic, medications, psychological and systemic disorders by various diagnostic techniques<sup>5</sup>. Histopathological examination of endometrial

biopsies is gold standard diagnostic tool in evaluation of AUB and a specific diagnosis helps to plan the therapy for successful, resourceful management of AUB<sup>6</sup>.

In the present study, 145 adequate samples of endometrial biopsies received over a period of 18 months were chosen for histopathological evaluation of causes of AUB.

### Materials and Methods

This study was conducted in the Department of Pathology, Mysore Medical College and Research Institute, Mysore. 145 biopsies obtained from patients presenting with AUB from August 2017 to February 2019 were included in this study. Endometrial samples received in 10% formalin underwent routine histological processing and stained with Haematoxylin and eosin stain. The histopathological findings were categorized into functional and organic causes. The functional causes of AUB included in this study were normal cyclical endometrium (proliferative and secretory phase) and other changes like disordered endometrium and atrophic endometrium. Organic causes included were endometrial hyperplasia without atypia and with atypia, endometrial polyp, endometrial carcinoma and retained products of conception.

### Results

In our study functional cause was the predominant finding for AUB comprising 68.96% of the total cases (Table 1). Organic lesions were predominant in perimenopausal age group (Table 2). The most common age group presenting with AUB in our study is perimenopausal group accounting to 44.13%. The most common pattern in this age is proliferative endometrium 32.81% (Table3).

**Table 1:** Functional causes of AUB

Proliferative phase	56 (56%)
Secretory phase	20 (20%)
Disordered phase	21 (21%)
Atrophic	03 (3%)

**Table 2:** Organic causes of AUB

Endometrial polyp	04 (8.88%)
Retained products of conception	02 (4.44%)
Endometrial hyperplasia	29 (64.44%)
Endometrial carcinoma	10 (22.22%)

**Table 3:** Distribution of cases based on causes in different age groups

	Reproductive group(21-40years)	Perimenopausal group(41-50years)	Post-menopausal group(>50years)
Proliferative Phase	29	21	6
Secretory Phase	8	12	0
Disordered Phase	8	12	1
Atrophic Phase	0	1	2
Hyperplasia without atypia	10	9	7
Hyperplasia with atypia	1	2	0
Carcinoma	1	4	5
Other causes	3	3	0

### Discussion

Endometrium is mirror of hormonal status in women. Histological variation can be seen in endometrium according to age of women, phase of menstrual cycle and any another specific pathology<sup>7</sup>.

In our study the most common age group presenting with AUB was 41-50 years similar to S. Vaidya et al<sup>8</sup> and Doraiswami S et al<sup>9</sup>. Incidence of functional cause of AUB in our study was 68.96% which was comparable to Ara & Roohi (62.1%)<sup>10</sup>, Abdullah LS (61.5%)<sup>11</sup> and Muzaffar et al (61%)<sup>12</sup>. Incidence of organic cause of AUB in our study was 31.03% which was comparable to SB Mune et al (35.4%)<sup>13</sup> but was a little higher compared to S.Vaidya et al (19%)<sup>8</sup>.

In reproductive age cyclical endometrial change was predominant which was similar to the study by Doraiswami S et al<sup>9</sup>.

In perimenopausal age, proliferative endometrium (32.81%) was the major cause which was comparable to Bhatta et al (29.8%)<sup>14</sup> and Damle et al(34%)<sup>15</sup>. Organic causes of AUB accounted for 28.12% which was highest compared to other age groups. Among the organic causes the most common cause was endometrial hyperplasia. Literature has mentioned studies where

endometrial hyperplasia was one of the leading cause of AUB in perimenopausal age<sup>15,16,17</sup>.

In post menopausal age group, hyperplasia without atypia (33.33%) was the most common cause for AUB where as in a study conducted by Khare et al<sup>16</sup> both atrophic endometrium as well as complex hyperplasia without atypia was the most common cause of AUB. 15

In our study endometrial carcinoma accounted for 6.89% of all the cases, of which highest number were noted in the post menopausal age group. This finding was similar to the study conducted by Doraiswami S et al(4.4%<sup>9</sup>),Bhatta et al(5.7%)<sup>14</sup> and Khare et al(3.7%)<sup>16</sup>.Most of the studies found majority of cases of carcinoma in postmenopausal age<sup>18,19</sup>

### Conclusion

Histopathological examination of endometrial biopsies is gold standard diagnostic tool in evaluation of AUB. It not only provides data regarding the hormonal response of endometrium but also helps in diagnosing the organic causes especially endometrial carcinoma. Hence histopathological examination is mandatory especially in peri-menopausal and post menopausal age group and can serve as an first step in the diagnosis of endometrial carcinoma and hence will aid the clinician to take appropriate step in managing the cases further.

**Sources of support in the form of grants:** Nil

### References

1. Ely JW, Kennedy CM, Clark EC, Bowdler NC. Abnormal Uterine Bleeding: A Management Algorithm. J Amer Board Fam Med 2006;19:590-602.
2. Awaad JT, Toth TL, Schiff I. Abnormal Uterine Bleeding in the Perimenopause. Int'l J Fertil Menopausal Stud 1993;38:261-269.
3. Wren BG. Dysfunctional Uterine Bleeding. Aus Fam Physician 1998;27:371-377.
4. Brandon JB, Amy EH, Nicholas CL, Harold EF, Edward EW. The John Hopkin's Manual of Gynecology and Obstetrics 2002; 2nd ed. Philadelphia: Lippincott Williams & Williams;2004. p. 405-411.
5. Morano B, Zarbo R, Puglisi F et al. Dysfunctional uterine bleeding: medical therapies. Minerva Gincal 2003;55:241-251.
6. Parmar J, Desai D. Study of endometrial pathology in abnormal uterine bleeding. Int J Reprod Contracept Obstet Gynecol 2013;2:182-185.
7. Shilpa. M.D, Subramanya. Study of Endometrial Pathology in Abnormal Uterine Bleeding. Int J Sci Research 2014;3(8):490-492.
8. Vaidya S,Lakhey M,Vaidya Amatya S.,Sharma P K, Hirachand S,Lama S,KC S.Histopathological pattern of abnormal uterine bleeding in endometrial biopsies. Nepal Med Coll J .2013;15(1):74-77
9. Doraiswami S, Johnson T, Rao S, Rajkumar A,Vijayaraghavan J, Panicker VK; Study of endometrial pathology in abnormal uterine bleeding. J of Obstet &Gynae of India, 2011;61(4): 426-430.
10. Ara S and Roohi M. Abnormal uterine bleeding; histopathological diagnosis by conventional dilatation and curettage. Professional Medical Journal 2011;18(4):587-591.
11. Abdullah LS, Bondagji NS. Histopathological pattern of endometrial sampling performed for abnormal uterine bleeding. Bahrain Med Bull 2011;33(4):1-6.
12. Muzaffar M, Akhtar KA, Yasmin S et al. Menstrual Irregularities with excessive blood loss: a clinico-pathological correlation. J Pak Med Assoc 2005;55:486-489.
13. Mune Swati Bapurao, Karche Abdul Gafoor. Histopathological patterns of

endometrial lesions in patients with abnormal uterine bleeding in rural area of Western Maharashtra.IJPO 2016;vol3(4):665-672.

14. Bhatta S, Sinha AK.Histopathological study of endometrium in abnormal uterine bleeding.Journal of Pathology of Nepal.2012;2:297-300.
15. Damle Rajshri P,Dravid N.V,Kishor H,Suryawanshi, Gadre Arundhati S, Bagale Priya S, Ahire Neelam. Clinicopathological spectrum of endometrial changes in perimenopausal and post-menopausal abnormal uterine bleeding: A 2 year study. J Clin Diagn Res. 2013 ; 7(12): 2774–2776.
16. Khare A,Bansal R.,Sharma S.,Elhence P.,Makkar N.,Tyagi Y.Morphological spectrum of Endometrium in patients presenting with dysfunctional uterine bleeding. People’s Journal of Scientific Research .2012;5(2):13-1
17. Mahapatro Mitali, Mishra Pratima. Clinicopathological evaluationof abnormal uterine bleeding.Journal of Health Research and Reviews,2015;2(1):45-49.
18. Prajapati Rujuta, Meena R.,Daveshwar A. Clinicopathological correlation of endometrial pattern in patients with Abnormal Uterine Bleeding. Int. J. Res Med.2015;4(2):128-132.
19. Karmakar Pragati J,Wilkinson Anne, Rathod Mayuri. Histopathological evaluation of postmenopausal bleeding, 2014;13(10):53-57.