



RESEARCH ARTICLE

CLINICO HISTOPATHOLOGICAL SPECTRUM OF ENDOMETRIUM IN ENDOMETRIAL CURETTAGE SPECIMENS OF ABNORMAL UTERINE BLEEDING PATIENTS

<sup>1,\*</sup>Syed Imtiyaz Hussain, <sup>1</sup>Ruby Reshi, <sup>2</sup>Gulshan Akhter, <sup>1</sup>Baba Iqbal and <sup>1</sup>Jibrán Amin

<sup>1</sup>Post Graduate Department of Pathology GMC Srinagar

<sup>2</sup>Post Graduate Department of Obstetrics and Gynaecology GMC Srinagar, 190010

ARTICLE INFO

Article History:

Received 20<sup>th</sup> October, 2016  
Received in revised form  
09<sup>th</sup> November, 2016  
Accepted 10<sup>th</sup> December, 2016  
Published online 31<sup>st</sup> January, 2017

Key words:

Abnormal Uterine Bleeding,  
Endometrium,  
Histopathology.

ABSTRACT

**Background:** Endometrial curettage is one of the commonest invasive gynecological procedure in reproductive as well as post reproductive age in abnormal uterine bleeding.

**Objective:** To determine the histological types of endometrial lesions in curettage specimens, of peri menopausal women having abnormal uterine bleeding.

**Methodology:** This is a one year retrospective study which was conducted from 1<sup>st</sup> January 2015 to 30<sup>th</sup> December 2015 at post graduate department of pathology in Govt. medical college Srinagar. A total of 300 endometrial curettages were included in the study. The inclusion criteria was sufficient endometrial specimen from perimenopausal women with abnormal uterine bleeding, where as the exclusion criteria was insufficient curetting specimen. A minimum of one sections and a maximum of two sections were taken from the endometrial specimen. Sections 4-5 micron thick were prepared and stained with H&E and reported by histopathologist. The data was entered and analyzed in SPSS version 20.

**Results:** A total of 300 endometrial curettages were included in this study with age range from 35 to 49 years. The most common age group encountered was 35-39 years, in which 171(57%) cases of endometrial curettages were noted. The common histological lesions were secretory phase of endometrium 96 (32 %) followed by proliferative phase 74 (24.6 %), simple hyperplasia without atypia 35(11.6%), retained product of conception 19 (6.3%), disordered proliferative endometrium 17 (5.6%) endometritis 12(4%), endometrial polyp 14 (4.6%) and endometrial adenocarcinoma 2(0.6%).

**Conclusion:** This study showed that that endometrial curettage is a significant diagnostic tool in identification of the lesion leading to abnormal uterine bleeding.

Copyright©2017, Syed Imtiyaz Hussain et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Syed Imtiyaz Hussain, Ruby Reshi, Gulshan Akhter, Baba Iqbal and Jibrán Amin. 2017. "Clinico histopathological spectrum of endometrium in endometrial curettage specimens of abnormal uterine bleeding patients", *International Journal of Current Research*, 9, (01), 45115-45118.

INTRODUCTION

Normal menstruation is defined as bleeding from secretory endometrium associated with ovulatory cycles, not exceeding a length of five days. Any bleeding not fulfilling these criteria is referred to as Abnormal Uterine Bleeding (AUB) (Rosai, 2011). Abnormal uterine bleeding is a symptom and not a disease. It occurs in various forms. (Jeffcoates principles of gynaecology eighth edition, 2014) Abnormal Uterine Bleeding (AUB) a term used to describe any type of bleeding that does not fall within the normal ranges for amount, frequency, duration or cyclicality (Munro et al., 2011). Abnormal uterine bleeding (AUB) is considered as one of the most common and perplexing problems both to the patient and the gynecologist. Variations from the normal cyclical pattern in the peri menopausal age may be due to functional or organic causes.

AUB may be the symptom of endometrial carcinoma in 8 – 50% of cases (Dangal, 2003). Histopathological examination of endometrium, taken by dilatation and curettage, is the standard diagnostic procedure for the diagnosis of endometrial pathology (Takreem et al., 2009). It is an ideal procedure in all women if AUB does not resolve with medical treatment and particularly in those above the age of 35 years, and in women who are at increased risk of endometrial cancer. An accurate histopathological diagnosis facilitates the implementation of optimal treatment at earliest stage of pre neoplastic conditions and reduces the unnecessary surgery. The aim of present study was to determine the histopathological spectrum of the endometrium in peri menopausal women presenting with Abnormal Uterine Bleeding

MATERIALS AND METHODS

This one year retrospective study, was done in the post graduate department of pathology in Govt. medical college

\*Corresponding author: Syed Imtiyaz Hussain,  
Post Graduate Department of Pathology GMC Srinagar.

Srinagar which included 300 cases of clinically diagnosed Abnormal uterine bleeding (AUB). Detailed clinical history was recorded from the case sheet. Pattern of bleeding was classified as Menorrhagia, Polymenorrhea, Metorrhagia and Menometrorrhagia. Inclusion criteria was peri menopause women between age group of 35 to 49 years and Exclusion criteria was inadequate endometrial curettages and women below 35 years and above 49 years. Specimens were fixed in 10% formalin followed by routine processing. The paraffin block sections were cut at 4-5 $\mu$  and the sections were stained by routine Haematoxylin and Eosin (H&E) stains, and special stains were used where required. Data was analysed using the Statistical Package for Social Science (SPSS version 20) for windows.

## RESULTS AND OBSERVATION

A total of 300 endometrial curettage's of peri menopausal women between the age group of 35 to 49 years with abnormal uterine bleeding (AUB) were studied.

**Table 1. Distribution of patients with abnormal uterine bleeding in peri menopausal age group**

Age (years)	No. of Patients	Percentage (%age)
35-39	171	57
40-44	87	29
45-49	42	14
TOTAL	300	100

**Table 2. Pattern of bleeding in patients with abnormal uterine bleeding in peri menopausal age group**

Pattern of bleeding	35-39 years	40-44 years	45-49 years	Total
Menorrhagia	112 (37.3%)	43 (14.3%)	21 (7%)	176 (58.6%)
Poly monorrhea	42 (14%)	23 (7.6%)	19 (6.3%)	84 (28%)
Metorrhagia	21 (7%)	6 (2%)	4 (1.3%)	31 (10.3%)
Meno metrorrhagia	5 (1.6%)	3 (1%)	1 (0.3%)	9 (3%)

**Table 3. Functional causes of abnormal uterine bleeding in peri menopausal age group (age in years)**

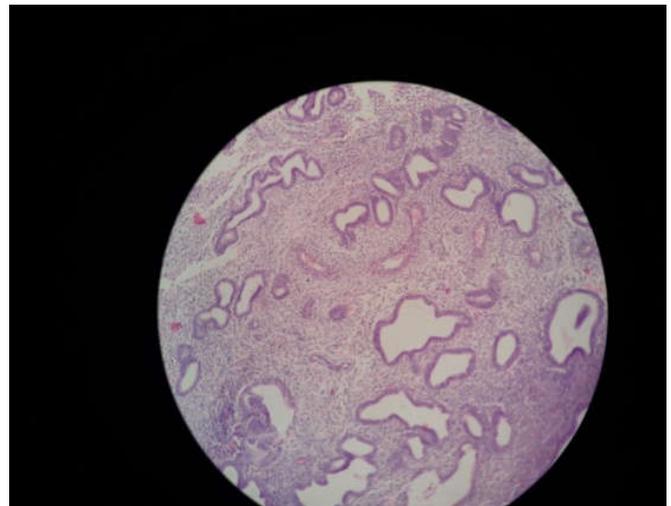
Histological pattern	35-39	40-44	45-49	Total
Secretory phase	56 (58.3%)	28 (29.1%)	12 (12.5%)	96 (32%)
Proliferative phase	51 (69%)	18 (24.3%)	5 (6.7%)	74 (24.6%)
Disordered proliferative endometrium	11 (64.7%)	4 (23.5%)	2 (11.7%)	17 (5.6%)

**Table 4. Organic causes of abnormal uterine bleeding in peri menopausal age group (age in years)**

Histological pattern	35-39	40-44	45-49	Total (percentage)
Retained products of conception	12 (63%)	5 (26%)	2 (10.5%)	17 (5.6%)
Acute endometritis	5 (62.5%)	2 (25%)	1 (12.5%)	8 (2.6%)
Chronic endometritis	4 (30.7%)	8 (61.5%)	1 (12.5%)	13 (4.3%)
Granulomatous endometritis	3 (75%)	1 (25%)	0	4 (1.3%)
Endometrial polyp	7 (50%)	5 (35%)	2 (14%)	14 (4.6%)
Hormonal effect	7 (70%)	3 (30%)	0	10 (3.3%)
Simple cystic hyperplasia without atypia	14 (40%)	11 (31%)	10 (28%)	35 (11.6%)
Complex hyperplasia without atypia	1 (12.5%)	2 (25%)	5 (62.5%)	8 (2.6%)
Endometrial adenocarcinoma	0	0	2 (100%)	2 (0.6%)

The patients were grouped into three groups, first group comprising patients of age group between 35-39 years, second group between 40-44 years and third group between 45-49 years. The maximum number of patients 171 (57%) were in the age group between 35 -39 years followed by 87 (29%) patients in the age group between 40-44 years and 42 (14%) patients in the age group between 45-49 years. The most common presenting symptom was menorrhagia (58.6%) followed by poly menorrhea (28%), metorrhagia (10.3%) and menometrorrhagia (3%). The functional causes accounted for majority of the histological diagnosis 187 cases (62.3%). Out of these secretory phase of endometrium being the most common histological pattern (32%) followed by proliferative phase of endometrium (24.6%) and disordered proliferative endometrium (5.6%). Among organic causes simple cystic hyperplasia without atypia was most common (11.6%) followed by retained products of conception (6.3%), chronic endometritis (5.6%), endometrial polyp (4.6%), hormonal effect (3.3%), acute endometritis (2.6%), complex hyperplasia without atypia (2.6%) and endometrial adenocarcinoma (0.6%).

## Photo Micrographs



**Figure 1. Simple hyperplasia without atypia. Mild increase in gland stroma ratio with cystic dilation of glands lined by proliferative epithelium (H&E, 40x)**



**Figure 2. Well differentiated Endometrioid carcinoma. Crowded atypical back to back glands without intervening stroma (H&E, 10X)**

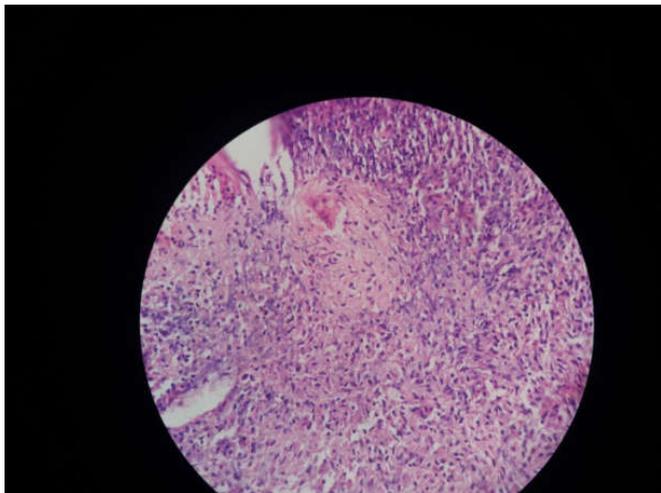


Figure 3. Granulomatous endometritis. Well-formed granuloma in the stroma of the endometrium. (H&E, 40X)

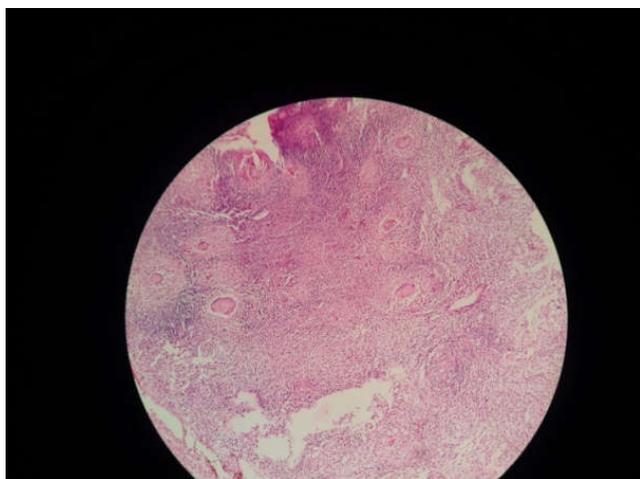


Figure 4. Granulomatous endometritis showing many giant cells (H&E 10X)

## DISCUSSION

Till the end of 19<sup>th</sup> century, chronic inflammation was thought to be the cause of abnormal uterine bleeding but currently there are various causes of AUB mainly in peri menopausal women which are divided into functional and organic causes. The present study was done to see the pattern of endometrium in peri menopausal women with AUB. In our study functional causes of AUB were seen in 187(62.3%) and organic causes in 113(37.6%) patients. These results are almost comparable with results obtained by Vaidya *et al.* (2013). Menorrhagia was a common clinical presentation in our study (58.6%). the result obtained by Humaira Bashir *et al.* (2015) in their study is (64.9%). Secretory phase of endometrium was most common in our study (32%). Similar result (31.76%) was obtained by Mohammad sajjad *et al.* (2015) followed by proliferative phase of endometrium (24.6%), similar to this Jairajpuri *et al.* (2013), Khare *et al.* (2012) and Abdullah *et al.* (2011) found the proliferative phase of endometrium in 24.92%, 26.85 and 21.7 % of patients respectively. Disordered proliferative pattern lies at one end of the spectrum of proliferative lesions of the endometrium at the other end with intervening stages of hyperplasia. Disordered proliferative patterns resemble a simple hyperplasia, but the process is focal rather than diffuse. In our study 5.6 % cases are diagnosed as disordered proliferative endometrium. Study of Humaira Bashir *et al.*

(2015) and Vaidya *et al.* (2013) showed it in 12.17% and 13.4% of cases respectively. In our study 8.33% of AUB were having endometritis (chronic 13 cases, acute 8 cases and granulomatous 4 cases) almost similar results (7.64%) were obtained by Mohammad Sajjad *et al.* (2015). In our study Endometrial polyp was seen in 4.6% of cases. Similar result (5%) was seen by sheetal *et al.* (2009). Menalgia, (1995) Paand *et al.* (1999) and Acharya *et al.* (2003) reported it in 8%, 10% and 12% of cases respectively. Hormonal effect (exogenous administration) was seen in 3.3% of cases. While Muzzafar *et al.* (2005) have reported it in 2.3% of cases Endometrial hyperplasia is a precursor of endometrial carcinoma. In our study endometrial hyperplasia was found in 14.3 % of cases while Humaira Bashir *et al.* (2015) found it in 18.9 % of cases which is slightly higher. Endometrial adenocarcinoma was found in 0.6% of cases. Similar results (0.44% each) were seen by Khan *et al.* (2011) and Mughal, (1997).

## Conclusion

AUB occurring as heavy cyclical or acyclical flow is alarming and needs thorough evaluation. The histopathological evaluation of endometrium by endometrial curettage is crucial for appropriate therapy. Therefore histopathological examination should be recommended before diagnosis to recognize the condition, provide early treatment and to avoid further complications.

## Acknowledgement

Authors acknowledge the immense help received from the scholars whose articles are cited and included in references of this manuscript. The authors are also grateful to authors / editors / publishers of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

## REFERENCES

- Acharya, V., Metha, S., Rander, A. 2003. Evaluation of dysfunctional uterine bleeding by TVS, hysteroscopy and histopathology. *J Obstet Gynecol India*,53:170-7.
- Dangal, G. 2003. A study of endometrium of patients with abnormal uterine bleeding at Chitwan valley. *KUMJ*, 1:110-2.
- Humaira Bashir, Nazia Bhat, Mehnaz Sultan Khuroo *et al* clinico pathological study of endometrium in patients with abnormal uterine bleeding. *Int J Cur Res Rev.*, Vol 7; Issue 22. November 2015
- Jeffcoates principles of gynaecology eighth edition. Abnormal and excessive bleeding 2014,560-561.
- Khare, A., Bansal, R., Sharma, S., Elhence, P., Makkar, N., Tyagi. Y. 2012. Morphological spectrum of endometrium in patients presenting with dysfunctional uterine bleeding. *People's J Sci Res.*, 5(2):13-6
- Layla Abdullah, Nabeel S. Bondayji. Histopathological pattern of endometrial sampling performed for abnormal uterine bleeding. *Bahrain Med Bull.*, 2011; 33(4):1-6.
- Mencalgia, L. 1995. Hysteroscopy and adenocarcinoma. *Obstet Gynecol Clin North Am*, 22: 573-9.
- Mohammad Sajjad, Sania Tanveer Khattak, Abdul Ghafoor *et al.* Histopathological patterns of endometrial lesions in endometrial curettage specimens of abnormal uterine bleeding patients *JSZMC*, 2015;6(3):820-823.

- Mughal, N. 1997. Bleeding problems and treatment. *Clin Obstet Gynecol.*, 41(41):928–39.
- Munro, M.G., Critchley, H.O., Fraser, I.S. 2011. FIGO Menstrual Disorders Working Group. The FIGO classification of causes of abnormal uterine bleeding in the reproductive years. *Fertil Steril.*, 2011; 95:2204-8.
- Muzzafar, M., Akhtar, K.A.K. and Yasmin, S. *et al.* 2005. Menstrual Irregularities with excessive blood loss: a clinico-pathological correlation. *J Pak Med Assoc.*, 55:486-489.
- Paand, A., Parulekar, S.V., Gupta, A. 1999. Diagnostic hyscopy in abnormal uterine bleeding and histopathology correlation. *J Obstet Gynecol India*, 49 : 74 - 76.
- Rosai, J. 2011. Female reproductive system-uterus-cornu. In:Rosai and Ackerman's Surgical Pathology. 10th Edn.; Mosby: An Imprint of Elsevier, Missouri, pp 1477- 1517.
- Sadia Khan, Sadia Hameed, Aneela Umber. Histopathologic pattern of endometrium on diagnostic D&C in patients with abnormal uterine bleeding. 2011;17(2):166-70.
- Sheetal, G., Patil, S.B. Bhute, S.A. Inamdar, Neema S Acharya, Deepti S Shrivastava. Role of diagnostic hysteroscopy in abnormal uterine bleeding and its histopathologic correlation. *J Endosc Surg.*, 2009; 1:98-104.
- Takreem, A., Danish, N., Razaq, S. 2009. Incidence of endometrial hyperplasia in 100 cases presenting with polymenorrhagia/menorrhagia in perimenopausal women. *J Ayub Med Coll Abbottabad.*, Apr-Jun;21:60-3.
- Vaidya, S., Lakhey, M., Vaidya, S., Sharma, P.K., Hirachand, S., Lama, S., KC S. Histopathological pattern of abnormal uterine bleeding in endometrial biopsies. *Nepal Med Coll J.*, 2013 Mar;15:74-7.
- Zeeba, S. Jairajpuri, S. Rama and S. Jetky, 2013. Atypical uterine bleeding: histopathological audit of endometrium. A study of 638 cases. *Al Ameen J Med Sci.*, 6(1):21-8.

\*\*\*\*\*