

# Histopathological Evaluation of Uterine Curettings in Patients with Abnormal Uterine Bleeding

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## ABSTRACT

**Objective:** The main objective of the present study is to determine the histopathological patterns and diagnostic value of endometrial curettings in patients presenting with abnormal uterine bleeding.

**Study Design:** A prospective study

**Place and Duration of Study:** This study was conducted at Department of Pathology Liaquat University of Medical and Health Sciences Jamshoro during March 2010 to February 2011.

**Materials and Methods:** A total of 100 cases of endometrial curettage were processed for routine staining with Haematoxylin and Eosin and slides were evaluated for histopathological diagnosis.

**Results:** The results showed that patient's age ranged between 40-52 years and most of the patients about 77% presented with menorrhagia. The histological findings showed normal phase (Proliferative and Secretory phase) of menstrual cycle in 52% of cases followed by simple hyperplasia without atypia 23%, chronic endometritis 13%, polyp 2%, tuberculous endometritis 2%, anovulatory cycle 1%, a ovulatory cycle with chronic endometritis 1%, atrophic changes 1%, atypical complex hyperplasia 2% and malignancy in 3% of cases. The Simple hyperplasia 23% and chronic endometritis 13% were the commonest pathological alteration. The accidental findings of organic lesions including polyps and malignancy in 5% cases focused the diagnostic importance of curettage in patients presenting with abnormal uterine bleeding.

**Conclusion:** It is concluded that simple hyperplasia without atypia and chronic endometritis are most important causes of abnormal uterine bleeding in the perimenopausal age groups.

**Key Words:** Abnormal uterine bleeding, Uterine curettage, Menorrhagia

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## INTRODUCTION

In gynaecological practice majority of the patients seen at out patients clinics usually present with Abnormal uterine bleeding (AUB).

Bleeding is considered abnormal when either the abnormalities occur in total duration of the menstrual cycle i-e less than 21 days or more than 35 days, or there are abnormalities in duration of menstrual flow i-e less than two days or more than seven days.<sup>1,2</sup>

Both the dysfunctional uterine bleeding (DUB) and bleeding due to structural lesions are considered as Abnormal uterine bleeding. Of these dysfunctional bleeding is mostly characterized by heavy and regular periods (i-e, menorrhagia) due to anovulatory cycles. Structural lesions of abnormal uterine bleeding include leiomyoma, adenomyosis, endometrial polyp,

adenocarcinoma endometrium and complications of pregnancy. Abnormal bleeding can also result from use of contraceptive as well.<sup>1,3</sup>

In peri & postmenopausal women it is very essential to exclude endometrial carcinoma, endometrial hyperplasia & structural causes, such as uterine fibroids, comprise the main pathology in younger women.<sup>4</sup>

According to WHO, perimenopause is the period 2 – 8 years before menopause and 1 year after the menopause. It is better defined as the phase generally occurring around 40-50 years of age, during which the regular cycle of a women transition to a pattern of irregular cycles.<sup>5</sup>

There are variety of methods used to investigate patients with AUB, such as, endometrial cytology, transvaginal ultrasound, hysteroscopy, D & C and endometrial biopsy.<sup>6</sup>

The recommendation regarding investigation of AUB is that women, over the age of 45, should be investigated with endometrial biopsy, which is frequently being obtained by uterine curettage (D & C) and this is performed as an inpatient procedure<sup>4</sup>. This is the most

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common procedure used to evaluate the endometrial cavity of a patient with AUB.<sup>7</sup> However the value of uterine curettage is great in the establishment of histopathological diagnosis.<sup>5</sup>

The main objective of the present study is to determine the histopathological patterns and diagnostic value of endometrial curettings in patients presenting with abnormal uterine bleeding.

## MATERIALS AND METHODS

This prospective study was conducted at Department of Pathology Liaquat University of Medical and Health Sciences Jamshoro during March 2010 to February 2011.

**Sample Size:** 100 cases of abnormal uterine bleeding clinically diagnosed followed by dilatation and curettage.

**Sampling Technique:** 100 consecutive cases were studied prospectively.

**Inclusion Criteria:** All perimenopausal women with abnormal uterine bleeding.

**Exclusion Criteria:** Patients with lower genital tract infection and known case of cervical stenosis. Those cases where biopsy specimen show autolytic changes.

**Data collection method:** A total of 100 cases of endometrial curettage with abnormal uterine bleeding were selected from the specimens received from all Gynae wards Liaquat University Hospital, Hyderabad and data was collected regarding patient's age, parity, pattern of bleeding and dominant histopathological features using a printed proforma. Detailed history was taken from the hospital records.

The specimens obtained were fixed in 10% formalin and were further processed for paraffin blocks. Three to five microns sections were taken and stained with Haematoxyllene and Eosin stain. All slides were prepared and viewed under light microscope. Different morphological features were observed and findings were recorded on the proforma.

The hyperplasias and malignancies were diagnosed according to the W.H.O criteria.<sup>8</sup>

**Data management and analysis:** Data regarding age, parity, pattern of bleeding, microscopic features were analyzed using SPSS version 11. Categorical data were expressed using proportions and percentages.

**Ethical considerations:** Confidentiality of data was maintained throughout the study. Permission was obtained from LUMHS administration.

## RESULTS

A total of 100 endometrial curettings from 100 patients in perimenopausal age with abnormal uterine bleeding were studied from March 2010 to February 2011. The ages of patients ranged from 40-52 years, with a mean age of  $44.17 \pm 3.44$ . All were in perimenopausal age. Majority of patients were multiparous (73%) with more than five pregnancies while only 5 were nulliparous. The incidence was high in parity III (13%) and grand multipara (73%) (Table 1).

This shows incidence of abnormal uterine bleeding increases as the parity increases. The pattern of bleeding in majority of patients was menorrhagia (75%), followed by metrorrhagia (10%), menometrorrhagia (7%), Polymenorrhea (6%) and polymenorrhagia (2%). Most of the cases of menorrhagia, metrorrhagia, menometrorrhagia, Polymenorrhea were found in the age group 40-45 years (Table 2).

**Table No.1: Correlation of 100 cases of AUB with of age and parity**

Parity	40-45 years	46-50 years	> 50 years	Total
0	3(3%)	2(2%)	0	5(5%)
I	2(2%)	0	0	2(2%)
II	3(3%)	4(4%)	0	7(7%)
III	13(13%)	0	0	13(13%)
Grand multipara	47(47%)	20(20%)	6(6%)	73(73%)
Total	68(68%)	26(26%)	6(6%)	100

**Table No.2: Clinical Presentations of abnormal uterine bleeding in various age groups**

Symptoms	40-45 Years	45-50 Years	> 50 Years	Total
Menorrhagia	49	20	6	75
Metrorrhagia	8	2	0	10
Polymenorrhea	5	1	0	6
Menometrorrhagia	6	1	0	7
Polymenorrhagea	0	2	0	2
Total cases	68	26	6	100

**Table No.3: Histological diagnosis in various age groups (n=100)**

Histological pattern	40-45 Years	45-50 Years	> 50 Years	Total
Secretory Phase	25	3	0	28
Proliferative Phase	22	2	0	24
Chronic endometritis	9	4	0	13
Simple hyperplasia without atypia	8	14	1	23
Tuberculous endometritis	2	0	0	2
Atypical complex hyperplasia	0	0	2	2
Endometrial polyp	0	2	0	2
Squamous cell carcinoma	0	0	2	2
Anovulatory cycle	1	0	0	1
Anovulatory cycle + chronic endometritis	1	0	0	1
Adenocarcinoma	0	0	1	1
Atrophic changes	0	1	0	1

Histopathological report revealed that normal physiological phases of menstrual cycle such as secretory phase in 28% cases and proliferative phase in 24% cases and they were found most common histological finding i-e 52% cases (Table 3).

Endometrial pathology was detected in 48% cases. The leading pathology was simple hyperplasia without atypia (23%). Other pathologies were found, such as, endometrial polyp 2%, tuberculous endometritis 2%, atypical complex hyperplasia 2%, squamous cell carcinoma 2% (invasion from the cervix into endometrium), endometrial adenocarcinoma 1%, anovulatory cycle in 1%, anovulatory cycle with chronic endometritis 1%. Atrophic endometrium was found only in 1% cases (Table 3).

Simple hyperplasia without atypia was found mostly in age group 45-50 years, chronic endometritis in 40-45 years, endometrial polyp in 45-50 years, atypical complex hyperplasia and malignancy in more than 50 years age group (Table 3).

## DISCUSSION

In gynaecological practice majority of the patients seen at out patients clinics usually present with Abnormal uterine bleeding (AUB).<sup>1</sup> Approximately 20% of patients have this complaint. This proportion rises to 69% when the perimenopausal and postmenopausal age groups are considered.<sup>9</sup> The endometrium shows irregular changes if there is increased resistance of gonadotrophic stimulation due to low levels of estrogen or due to decreased number of ovarian follicles in perimenopausal women.<sup>10</sup> The commonest procedure used to evaluate the endometrial cavity of a patient with AUB is dilatation and curettage.<sup>9</sup> Endometrial curettage is also advised in patients with abnormal uterine bleeding to exclude the possibility of structural lesions, such as leiomyoma, adenomyosis, endometrial polyp, adenocarcinoma endometrium, hormone response and incomplete abortion as a cause of bleeding. The more irregular the bleeding, the greater is the indication for dilatation and curettage.<sup>11</sup>

Our study also revealed that with the increasing age the severity of the menstrual disorders also increased. The commonest age group in our patients was 40-45 years (68%), accounting for higher number of cases as compared to 48%<sup>12</sup>, 38.06%<sup>13</sup> in other studies.

In our study most common presenting symptom was menorrhagia (75%), however more number of cases were found in other studies.<sup>12, 13</sup> Normal physiological phases of menstrual cycle, such as secretory and proliferative phases of endometrium, were the more common histological findings present in 28% and 24% cases respectively in this study. This result correlated with other studies done previously.<sup>12, 13</sup> In this study, proliferative phase was found to be 24%, this is because in cases of AUB, diagnostic D & C can be performed at any stage of cycle and clinically proliferative and

secretory phase of cycle cannot be distinguished due to irregularity of cycle, until diagnosed on histopathological examination.

In our study, chronic endometritis was found in 13% cases which was similar to Muzaffar's study<sup>12</sup>, but it is 24%<sup>11</sup> and 3.28 %<sup>14</sup> in other studies. Chronic endometritis is characterized by irregular fibrous stroma and lymphocyte and plasma cell infiltration.<sup>11</sup> It is usually caused by pregnancy or abortion or may be the result of intrauterine contraceptive device, viral, chlamydial or gonococcal infection.<sup>12</sup> The possible cause in our setup may be incomplete abortion and not properly handled due to inadequate medical cover and ignorance. The extension of this infection may be contributing to high incidence of pelvic inflammatory disease in our country.<sup>11</sup>

Tuberculous endometritis has been detected in 2% of all our cases undergoing curettage for abnormal uterine bleeding, which is compared to 4%<sup>11</sup> in one study. It is the important medical problem in Pakistan and India.<sup>15</sup> Tuberculosis is the world's 2<sup>nd</sup> leading cause of death from a single infectious agent. Deaths from the disease are expected to increase to over 3.5 million per annum. Currently most of these cases and more than 98% of deaths occur in developing world.<sup>16</sup> So that, tuberculous endometritis has to be looked for in all female patients presenting with AUB and should be considered in differential diagnosis of the abnormal uterine bleeding.

Hyperplasia was commonest endometrial pathology diagnosed (25%) in this study, among which simple hyperplasia without atypia (23%) and atypical complex hyperplasia (2%) and it is very much similar in one study.<sup>12</sup> Atypical complex hyperplasia compared favourably with these studies.<sup>11, 12</sup> Endometrial hyperplasia is a precursor of endometrial carcinoma, the most common malignancy of female reproductive tract. It accounts for 6% of new female cases and 3% of female cancer deaths.<sup>17</sup> Hyperplasia is classified according to two criteria. I.e. glandular complexity and nuclear atypicality. According to new ISGP, FIGO and WHO classification (2000), there are four diagnostic categories of endometrial hyperplasia: 1. Simple hyperplasia without atypia, 2. Complex hyperplasia without atypia, 3. Atypical simple hyperplasia, 4. Atypical complex hyperplasia.<sup>18</sup> If it is treated in time, incidence can be reduced and early treatment can increase life expectancy and quality in women over 45 years. Diagnostic curettage remains the "gold standard" for its diagnosis.<sup>8</sup>

As the women get elder, the incidence of structural abnormality including malignancy increases.<sup>10</sup> We have found 3% of all patients had malignancy (of endometrium/endocervix) and it is compared to other study in which 17% patients had malignancies.<sup>10</sup> The reason for this difference is, we have taken all patients in a perimenopausal age and the incidence of

malignancy is very much high in postmenopausal bleeding.

The percentage of atrophic endometrium was 1% in present study which was compared to other studies as 1.3%<sup>13</sup> and 2%<sup>14</sup> which is just similar to present study. Endometrial polyps were found lesser as compared to 3.2%<sup>3</sup> in one study. It is associated with decreased menstrual cycle lengths, endometriosis and decreased parity. Larger polyps are more likely to cause abnormal bleeding.

## CONCLUSION

In conclusion, the abnormal uterine bleeding is common in the age group 40-45 years and the incidence increases as the parity increases. Histopathologically, simple hyperplasia without atypia and chronic endometritis are most important causes of abnormal uterine bleeding in the perimenopausal age groups. Fortunately, the frequencies of uterine malignancy (including cervix) is lower in our country as compared to studies conducted by western countries.

**Recommendation:** It is recommended that every woman with abnormal uterine bleeding of perimenopausal age should be evaluated properly and diagnostic curettage should be done for early detection of malignancy.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

## REFERENCES

1. Khan S, Hameed S, Umber A. Histopathological pattern of endometrium on diagnostic dilatation and curettage in patients with abnormal uterine bleeding. *Annals* 2011;17:166-70.
2. Fraser IS, Critchley HO, Broder M, Munro MG. The FIGO recommendation on terminologies and definitions for normal and abnormal uterine bleeding. *Semin Reprod Med* 2011;29:383-90.
3. Ely JW, Kennedy CM, Clark EC, Bowdler NC. Abnormal uterine bleeding: A management algorithm. *J Am Board of Fam Med* 2006;590-602.
4. Hunter DC, McClure N. Abnormal uterine bleeding: An evaluation of endometrial biopsy, vaginal ultrasound and outpatient hysteroscopy. *Ulster Med J* 2001;70:25-30.
5. Bhosle, Fonseca M. Evaluation and histopathological correlation of abnormal uterine bleeding in perimenopausal women. *Bombay Hospital J* 2010;52:69-72.
6. Tabata T, Yamawaki T, Ida M, Nishimura K, Nose Y, Yabana T. Clinical value of dilatation and curettage for abnormal uterine bleeding. *Arch Gynecol Obstet* 2001;264:174-6.
7. Madan SM, Al-Jufairi ZA. Abnormal uterine bleeding. Diagnostic value of hysteroscopy. *SMJ* 2001;22:153-6.
8. Silverberg SG. Problems in the differential diagnosis of endometrial hyperplasia and carcinoma. *Mod Pathol* 2000;13:309-27.
9. Jyotsna, Kamlesh M, Sharma S. Role of hysteroscopy and laparoscopy in evaluation of abnormal uterine bleeding. *J Med Edu and Res* 2004;6:23-27.
10. Dangal G. A study of endometrium of patients with abnormal uterine bleeding at Chitwan valley, Kathmandu Uni Med J 2003;1:110-12.
11. Luqman M, Bukhari L. Abnormal/excessive uterine hemorrhage: A histopathological study. *Pak J Pathol* 1998;9:22-4.
12. Muzaffar M, Rasheed S, Iqbal W, Akhter KA, Rehman M, Khan MA. Menstrual Irregularities with excessive blood loss: A clinico-pathological correlation. *JPMA* 2005;55:486-89.
13. Yusuf NW, Nadeem R, Yusuf AW, Rehman R. Dysfunctional uterine bleeding: A retrospective clinicomorphological study over two years. *Pak J Obstet & Gynecol* 1996; 9:27-30.
14. Moghal N. Diagnostic value of endometrial curettage in abnormal uterine bleeding. A histopathological study *J Pak Med Assoc* 1997;47: 295-9.
15. Nawaz K. Frequency of endometrial tuberculosis: A histopathological study of endometrial specimens. *JPMI* 2005;19:97-100.
16. Qureshi RN, Samad S, Hamid R. Female genital tract tuberculosis revised. *JPMA* 2001;51:16-18.
17. Takreem A, Danish N, Razaq S. Incidence of endometrial hyperplasia in 100 cases presenting with polymenorrhagia/menorrhagia in perimenopausal women. *J Ayub Med Coll Abbottabad* 2009; 21:60-63.
18. Barati M, Masihi S, Ilkhan S. Location, size and clinical symptoms of uterine polyps. *Pak J Med Sci* 2010;26:380-3.