# HISTOLOGICAL PATTERNS OF ENDOMETRIAL LESIONS IN ENDOMETRIAL CURETTAGE SPECIMENS OF ABNORMAL UTERINE BLEEDING PATIENTS

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## 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 women having abnormal uterine bleeding. **Methodology:** This descriptive study was conducted in Bannu Medical College from 1st March 2011 to 31st May 2014. A total of 170 endometrial curettings were included in the study. The inclusion criteria was sufficient endometrial specimen from women of any age with abnormal uterine bleeding, where as the exclusion criteria was insufficient curetting specimen. A minimum of one sections and a maximum of three sections were taken from the endometrial specimen. Sections 5 micron thick were prepared and stained with H&E and reported by histopathologist. The data was entered and analyzed in SPSS version 17. **Results**: A total of 170 endometrial specimens were included in this study with age range from 21 to 73 years. The most common age group encountered was 31-40 years, in which 67(39%) cases of endometrial specimen were noted. The common histological lesion were secretory phase endometrium 54 (31.7%) followed by proliferative phase 47 (27.6 %), retained product of conception 16 (9.41%), endometritis 13 (7.64%) and endometrial polyp 12 (7.05%). **Conclusion**: This study showed that that endometrial curettage is a significant diagnostic tool in identification of the lesion leading to abnormal uterine bleeding in any age patients.

**Key Words**: Abnormal uterine bleeding, Endometrium, Histopathology.

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## INTRODUCTION

Abnormal uterine bleeding is a major gynecological problem, in life of an adult female.[1] This is so because of the wide range of histopathological patterns of endometrial diseases in different age groups. In adolescence anovulatory cycles, in reproductive and perimenopausal age complication of pregnancy, leiomyoma, adenomyosis, polyps and endometrial hyperplasia predominates, where as in postmenopausal age atrophy and carcinomas occurs usually. Majority of these lesion can be diagnosed by endometrial sampling.[2] Endometrial tissue can be obtained by two most important sampling methods i.e. biopsy and curettage for definitive diagnosis of the lesions. This technique is the first line diagnostic tool which is safe, accurate, quick and convenient, however problems of sampling materials adequacy are there. The endometrial biopsy is obtained by relatively painless procedure where as curettage needs cervical dilatation first. Dilatation and Curettage is the mainstay of endometrial sampling for decades,[3,4] however associated risks of general anaesthesia, uterine perforation, and infection has led to the advent of new and simple methods for endometrial sampling.[5,6] The currettage remains popular in some developing countries because the people believe this procedure "washes" the endometrial cavity. It is usually straightforward to obtain consent to such a procedure for diagnostic purposes. Studies have shown that histopathological patterns of diagnosis varies with respect to age of the patients. Most young women of reproductive age present with hormonal imbalance, where as older women of perimenopausal and postmenopausal age group present more commonly with endometrial hyperplasia and carcinomas.[7]

An endometrial biopsy should be performed on all women over age 35 years with menorrhagia to rule out endometrial carcinoma or premalignant lesions eg atypical hyperplasia. Endometrial biopsy should also be considered in women between the age 18 and 35 years with abnormal uterine bleeding who have risk factors for endometrial carcinoma. Endometrial carcinoma or hyperplasia are two important pathologies that need to be excluded in women with menorrhagia.[3] This study was conducted to determine the histological types of

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endometrial lesions in curettage specimens, of women having abnormal uterine bleeding.

## METHODOLOGY

In this descriptive study, a total of 170 samples of endometrium curettage specimens with clinical findings of abnormal uterine bleeding were processed for histological examination in pathology department, Bannu Medical College, Bannu. The inclusion criteria was women of any age with abnormal uterine bleeding. The exclusion criteria was insufficient or autolysed curettage material. The data of all the patients was recorded in a predesigned proforma after a consent from each patient. The study period was from 1st March, 2011 to 31st May, 2014.

The biopsy materials were received in 10% formalin, processed in different grades of alcohol, xyelene, paraffin wax, tissue block prepared, freezed in refrigerator, 3-5 micron thick sections cut by microtome, slide prepared, stained with Hematoxylin and Eosin, mounted with DPX, labelled and reported by histopathologist. The data was entered in statistics software i.e. statistical package for social sciences (SPSS) version 17, and descriptive analysis of age, type of lesion was done.

## RESULTS

A total of 170 endometrial curettings were included in the study. The age range was from 21 to 73 years with the mean age of 44 ± 23 years. The most common age group was 31-40 years 67 (39%). (Table I)

**Table I: Age distribution of study subjects (n=170)**

| Age group (years) | No of patients | Percentage |
|---|---|---|
| 21-30 | 32 | 18.82% |
| 31-40 | 67 | 39.41% |
| 41-50 | 56 | 32.94% |
| 51-60 | 12 | 7.05% |
| >60 | 03 | 1.76% |
| **Total** | **170** | **100%** |

It was noted that 4 (2.4%) were having malignant lesions. (Table II). It was noted that 31% were having secretary phase of lesion, 27% have proliferative lesion and 9.1%have RPOcs. (Table III).

**Table II: Types of lesions in endometrial curettage specimen.(n=170)**

| Lesion type | No of lesion | Percentage |
|---|---|---|
| Benign | 166 | 97.6% |
| Malignant | 04 | 2.4% |
| | 170 | 100% |

**Table III: Frequency of different types of endometrial lesions in currtage specimen. (n=170)**

| Type of endometrial lesion | Number | Percentages |
|---|---|---|
| Secretory phase | 54 | 31.7% |
| Proliferative phase | 47 | 27.6s% |
| Retained product of conception (RPOcs) | 16 | 9.41% |
| Endometritis(Acute,chronic, TB) | 13 | 7.64% |
| Endometrial polyp | 12 | 7.05% |
| Endometrial atrophy | 10 | 5.88% |
| Hydatid form Mole | 09 | 5.29% |
| Endometrial hyperplasia | 04 | 2.35% |
| Endometrial adenocarcinoa | 02 | 1.17% |
| Choriocarcinoma | 02 | 1.17% |
| Endometrial metaplasia | 01 | 0.58% |
| | 170 | 100% |

## DISCUSSION

In humans the lenth of a menstrual cycle varies greatly among women (ranging from 21 to 35 days ),with average 28 days. Each cycle can be divided into three phages based on events in the ovary (ovarian cycle) or in the uterus (uterine cycle). The ovarian cycle consists of the follicular phase, ovulation, and luteal phase whereas the uterine cycle is divided into menstruation, proliferative phase, and secretory phase. Both cycles are controlled by the endocrine system. The amount of blood loss on average is 30 ml per cycle but may be upto 80 ml. Menorrhagia is primarily a subjective and is expressed as heavy periods.The average age of menarche in humans is 12–13 years. The cessation of menstrual cycles at the end of a woman's reproductive period is termed menopause.The average age of menopause in women is 52 years. Like the age of menarche, the age of menopause is largely a result of cultural and biological factors.[8,9] The main objective of endometrial curettage in

abnormal uterine bleeding is to exclude intrauterine lesions such as retained product of conception, endometritis, endometrial polyp and carcinomas.[9] In this study 170 endometrium specimen from patients with abnormal uterine bleeding, , using endometrial sampling as the sole primary method were collected. Whereas in another study, 102 cases with menorrhagia with age > 35 years were studied in Kurovilla A et al.[10]

In this study 39% of the patients with abnormal abnormal uterine bleeding were in the age group of 31-40 years which is similar to the study conducted by Mackenzie I[11] and and Shaheen S et al.[12] In this study many endometrial specimen revealed normal histology like secretory phase (31.76%) and proliferative phase (27.64%) in the reproductive age group whereas the same results were claimed by Shazia F et al,[13] with the difference in phases i.e proliferative > secretory phase ( proliferative endometrium 33% and secretory endometrium 26%). Shaheen S et al [12] showed proliferative endometrium 58.6% in menorrhagia patients and in a study conducted by Fraser IS et al,[14] it was 15.93% of patients.

Chronic endometritis is defined as presence of plasma cells in addition to lymphocytes in the endometrial stroma. In this study, 7.64% of abnormal uterine bleeding were having endometritis (chronic 11 cases, acute and tuberculous endometritis each 1 case). In a study conducted by Goldstein SR et al,[15] isolated 26 (17% ) cases of endometrium as endometritis in menorrhagia patients. In this study one case of tuberculous endometritis was identified as in study of Luqman M et al.[16] The reason behind this is tuberculous endometritis does not seem to be common as other type of non specific endometritis. In this study endometrial polyp were reported in 7.06% of cases where as in study of Khan S et al[17] this was 0.6%, which show a significance difference. Sheetal et al[18] reported it as 5%, and 8%,10%,12% were reported by Mencalgia L[19], Paand A,[20] Acharya V[21] respectively. In this study only simple endometrial hyperplasia was observed 2.35% of cases. In Khan S et al,[17] endometrial hyperplasia was observed in 12.6% of cases which is quite variable incidence. Bahnamfar et al, [22] reported it 11%. However Takren A T et al,[23] reported it 15% and Joyotsana et al,[24] reported an incidence of endometrial hyperplasia of 22.66%. In this study the retained product of conception was comprising 9.41% usually in response to missed abortion, whereas study conducted by Forae GD et al,[2] showed higher incidence of 27.7%, the reason here is partly attributable to the high incidence of illegal abortion and complication of pregnancy occurring in young adolescent girls. Several literature support the fact that pregnancy and its complication are the first consideration in women of reproductive age group.[23,25] In our study, 5.29% cases were identified as hydatidyform mole, 1.17% cases each choriocarcinomas and endometrial adenocarcinoma, whereas in a study conducted by Forae GD et al,[2] hydatidyform mole were identified only in 1.3% cases and choriocarcinoma 0.4% and endometrial adenocarcinoma in 1.7% cases of abnormal uterine bleeding. Here significant variation in the incidence of molar pregnancy is present. Comparison of the results of this study with other studies, indicates histopathological similarities and dissimilarities in incidence of different lesions of the endometrium in patients of abnormal uterine bleeding. The incidence of endometrial hyperplasia which show gross variation in different studies with notorious outcome needs further evaluation while addressing its course of progressin to carcinoma.

## CONCLUSION

Our study showed that majority of the patients have secretary or proliferative phase histological findings, followed by products of conception and endometritis. All patients with abnormal uterine bleeding of any age needs to be evaluated by endometrial curettage to rule out a range of abnormalities from benign to hyperplastic to malignant as well as inflammatory to missed product of conception. Proper treatment or evacuation of endometrial cavity may have a therapeutic value.

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