

A Morphological Study of Atypical Uterine Bleeding

1. Niaz Mohammad 2. Chandi Kapoor 3. Amir Mohammad Babar 4. Samina Tareen

1. Assoc. Prof. of Pathology, 2. Assoc. Prof. of Pathology, 3. Assoc. Prof. of Pathology, 4. Consultant Gynaecologist, Gynaecology Deptt. Bolan Medical College, Quetta

ABSTRACT

Objective: To find out the Histopathological pattern of Endomyometrium in atypical uterine bleeding (AUB), also to study organic causes of AUB.

Study Design: A prospective, descriptive study

Place and Duration of Study: This study was conducted at the Departments of Pathology and Gynaecology and Obstetrics, Bolan Medical College Complex Hospital Quetta from January 2011 to January 2013.

Materials and Methods: Specimens were received as endometrial curettage and hysterectomy specimens from patients hospitalized in the dept. of Gynaecology and Obstetrics of BMC Complex Hospital Quetta. This study included 300 women's presenting with AUB, irrespective of age and parity. A detailed clinical history followed by physical examination was also carried out in each patient to exclude systemic causes like psychological upsets and early pregnancy states and also exclude general physical abnormalities. After grossing and H&E staining all the sections were studied by group of pathologists.

Results: A Total 300 cases were studied, including 100 endometrial curetting's and 200 uteri in patients of atypical uterine bleeding at Bolan Medical Complex Hospital Quetta. The ages of these patients ranged from 20-69 years. Maximum numbers of cases were in age groups 40-49 years. Chronic endometritis (7 out of 100) 7% and the cystic hyperplasia (9 out of 100) 9% were the most important causes of atypical uterine bleeding in endometrial curetting's. No case of endometrial carcinoma was diagnosed in this series. The histological study of hysterectomy specimen revealed multiple leiomyoma's (135 out of 200) 67.5% and adenomyosis (38 out of 200) 19% as the commonest causes of atypical uterine bleeding. (2 out of 200) 1% case of leiomyosarcoma and (1 out of 200) 0.5% case of choriocarcinoma were diagnosed suggesting a lower frequency of uterine malignancy in our study.

Conclusion: In conclusion leiomyoma's and adenomyosis are most important causes of AUB after 3rd decade of life. Fortunately the frequency of uterine malignancy (excluding cervix) including endometrial carcinoma is much low in our setup as compared to western studies..

Key Words: Abnormal uterine bleeding, Histopathological pattern, Endomyometrium,

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INTRODUCTION

Endometrium is a dynamic, hormonally sensitive and responsive tissue which constantly and rhythmically undergoes changes in the active reproductive life.¹ Abnormal uterine bleeding (AUB) may be defined as a bleeding pattern that differs in frequency, duration and amount from a pattern observed during a normal menstrual cycle or after menopause.² There are many conditions which may lead to abnormal uterine bleeding that occur at regular or irregular intervals in excessive or scant amount especially when prolonged.³ Some of these cases are the result of identifiable causes like systemic diseases including psychological upsets, endocrine disorders and early pregnancy states. Other conditions including errors in uterine development, infections, endometriosis and uterine neoplasms, like polyps, leiomyomas, and malignant tumors.^{4,5}

Uterine bleeding has also been associated with obscure causes like chronic symmetrical enlargement and idiopathic developmental hypertrophy of uterus etc.⁶

The uterine bleeding which is not associated with any organic cause in women of child bearing age belongs to a category known as dysfunctional uterine bleeding.⁵ Dilatation and curettage or endometrial biopsy is a useful and cost effective method of detecting intrauterine pathologies and very few lesions escape detection.⁷ In these cases a thorough clinical history, detailed physical examination and a correctly timed endometrial biopsy reveals conditions like irregular shedding, anovulatory cycle, inadequate proliferative phase and luteal phase insufficiency (inadequate secretory phase) etc.

This present study was carried out to determine the types and frequencies of endometrial pathologies in patient presenting with abnormal uterine bleeding at Bolan Medical Complex Hospital Quetta in the uterine biopsy material and hysterectomy specimens.

Correspondence: Dr. Niaz Mohammad,
Associate Professor of Pathology. BMC Quetta
Cell No.0343-8215910
Email: niazmohammad193@gmail.com

MATERIALS AND METHODS

This study was carried out in the departments of Pathology and Gynaecology and Obstetrics at Bolan Medical Complex Hospital Quetta.

A total 300 specimens were included in this study. Out of 300 specimens 100 were Endometrial Curettings and 200 were hysterectomy specimens were received in pathology laboratory in the hospital.

A record of these patients was retrieved and patient's age, parity, a detailed clinical history was recorded. Other systemic causes of uterine bleeding like psychological upset and early pregnancy states were excluded. A thorough physical examination was also carried out in each patient to exclude physical abnormalities.

The endometrial biopsy material in these patients of abnormal uterine bleeding was immediately fixed in 10% formalin. After detailed gross examination of each specimen, the tissue was processed routinely and 3-4 um thick sections were prepared from paraffin embedded tissue. These sections were stained with haematoxylin and eosin (H&E). The slides were then studied carefully to elicit the cause of abnormal uterine bleeding.

The hysterectomy specimens, after washing to remove the blood, were also fixed in 10% formalin. The uteri were measured in length, lateral and anterior-posterior dimensions. The external examination was carried out to record the abnormalities in shape.

Sections were taken routinely passed, paraffin embedded and stained with haematoxylin and eosin (H&E). All the sections were then studied by a group of pathologists.

RESULTS

The results of analysis of endometrial biopsies in the cases of atypical uterine bleeding revealed the diagnosis of chronic endometritis in 7 out of 100 (7%) cases only, while cystic hyperplasia was observed in 9 out of 100 (9%) of endometrial curettings (Figure 3). 2 out of 100 (2%) cases revealed adenomatous hyperplasia. No case of uterine malignancy was diagnosed in the uterine curettings in this series (Table 1). The patients having abnormal uterine bleeding were scattered over all age groups (Figure 1).

The histological study of the hysterectomy specimens revealed multiple leiomyomas in 135 out of 200 (67.5%) and adenomyosis in 38 out of 200 (19%) as the most common causes of atypical uterine bleeding (Figure 4). Some of the uteri did not reveal any cause of bleeding. The other causes of atypical uterine bleeding like cystic Hyperplasia were 13 out of 200 (6.5%) and polyps 11 out of 200 (5.5%). 8 uteri were distorted with large size. There were 02 out of 200 (1%) cases of leiomyosarcomas and 01 out of 200 (0.5%) case of

Choriocarcinoma (Table 2). Most of the uteri removed were in the age group of 40-45 years (Figure 2).

Table No.1: The Histopathological Pattern of Endometrial Tissue in 100 cases of Abnormal Uterine Bleeding

| Histological Pattern | Number | %age |
|---------------------------------|--------|------|
| Proliferative Phase | 31 | 31% |
| Secretory Phase | 45 | 45% |
| Tuberculous Endometritis | 03 | 03% |
| Cystic Hyperplasia | 09 | 09% |
| Adenomatous Hyperplasia | 02 | 02% |
| Chronic Endometritis | 07 | 07% |
| Retained products of Conception | 03 | 03% |
| Total | 100 | 100% |

Table No.2: The Histopathological pattern of 200 Uteri removed for Abnormal Uterine Bleeding

| Histological Pattern | Number | %age |
|----------------------|--------|-------|
| Leiomyoma | 135 | 67.5% |
| Adenomyosis | 38 | 19.0% |
| Cystic Hyperplasia | 13 | 06.5% |
| Polyps | 11 | 05.5% |
| Leiomyosarcoma | 02 | 01% |
| Choriocarcinoma | 01 | 0.5% |
| Total | 200 | 100% |

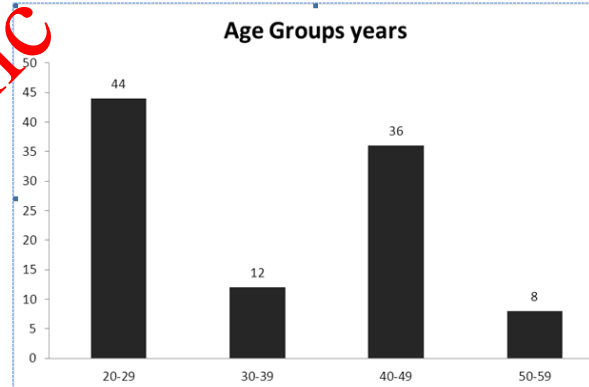


Figure 1: Age Group of Women of Endometrial Biopsy

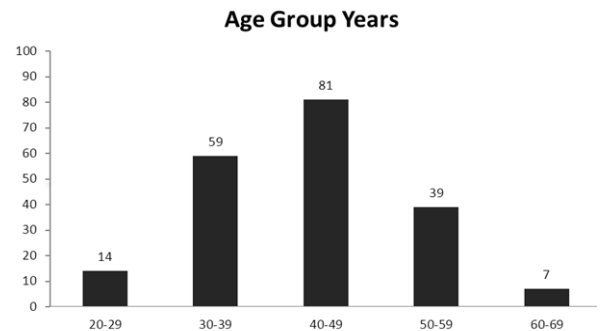


Figure No.2: Age Group of Women of Hysterectomy Specimens

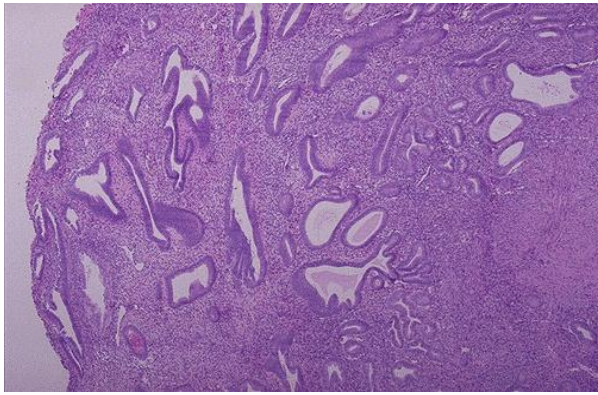


Figure No.3: Microphotograph showing Endometrium with Cystic Hyperplasia. (Haematoxylin & Eosin Stain x 100)

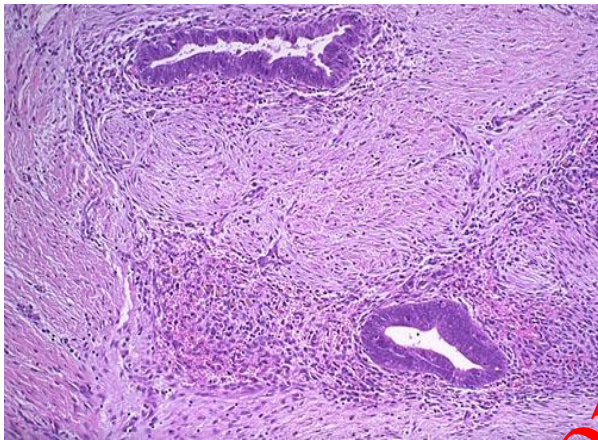


Figure No. 4: Microphotograph showing Adenomyosis (Haematoxylin & Eosin Stain x 100)

DISCUSSION

Abnormal uterine bleeding is a common gynaecological problem accounting for up to 20% of the visits to the gynaecologists.⁸ The main objective of endometrial curettage in Abnormal uterine bleeding to exclude the possibility of local intrauterine lesion such as incomplete abortion, uterine polyps, tuberculous endometritis and Carcinoma as a cause of bleeding.⁹ Our study revealed that all age groups were involved by Abnormal uterine bleeding, It was found to be more common in our women in twenties and pre-menopausal age groups, Subhankar D,¹⁰ also reported the same age group in India. These two age groups were involved due to Hormonal disturbances and development of leiomyomas/ adenomyosis which was revealed by the study of hysterectomy specimen in our study. Many women revealed endometrial curettings with normal histology like proliferative/ Secretory phases 45% but chronic endometritis in our study found to be not so common, as compare to other studies 07%,^{11,12} in these women chronic endometritis which is characterized by irregular fibrotic stroma and infiltration of chronic inflammatory cells. The possible cause in our setup

may be incomplete abortions which are fairly common and if not properly handled due to lack of adequate medical facilities. The cases of tuberculous endometritis are not so high as in other organs in our setup 03%, glandular cystic hyperplasia was diagnosed in 09% of patients with Abnormal uterine bleeding on endometrial curettings. Prolonged periods of anovulation with steady estrogen secretion may have a similar effect.¹³ Atypical hyperplastic pattern may also occur after prolonged anovulation in the Stein-Leventhal syndrome which regresses after therapeutic induction of ovulation¹⁴. Most of these patients respond to progesterone or by hysterectomy. The incidence of adenomatous hyperplasia was low in our study 2%.

We did not discover endometrial carcinoma on curettage in our series, which denotes the low frequency of malignancy in our country. This is similar to the findings of other workers in the sub-continent¹⁵. As expected most of the hysterectomy specimen revealed the presence of multiple leiomyomas. 67.5% which were also associated with adenomyosis 19% in many cases, both submucosal and intramural leiomyomas may lead to abnormal uterine haemorrhage. Beside leiomyomas, adenomyosis was found to be a common cause of abnormal uterine bleeding 10% in our setup. Our findings are in accordance with those of Zeeba S. The adenomyosis may be causing abnormal uterine bleeding due to increased uterine size contributed by fibrosis. This may lead to symptoms of pain, cramps and abnormal prolonged and profuse menstrual bleeding.

CONCLUSION

In conclusion leiomyomas and adenomyosis are most important causes of abnormal uterine bleeding after 3rd decade of life. Fortunately the frequency of uterine malignancy (excluding cervix) including endometrial carcinoma is much low in our setup as compared to western studies. To conclude, a significant number of endometrial samples on histopathology revealed changes, renderings of AUB. Endometrial causes of AUB are age related, therefore it is specially recommended in women of the perimenopausal age presenting with AUB, to rule out preneoplasia and malignancy.

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