Original Research Article

Histomorphological Profile of Endometrium in Perimenopausal Bleeding

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Abstract

Background: Perimenopausal bleeding is one of the commonest conditions for which patients come to the gynecological outpatient department. The prevalence increases with age peaking just before menopause. Anovulatory cycles causing excessive, uncontrolled and prolonged bleeding, irrespective of the etiology, are the commonest cause for such bleeding in the perimenopausal women. Perimenopause is 2-8 years proceeding and 1 year after menopause. It occurs in women between the ages of 40 to 50 years.

Aim: To evaluate the histomorphological profile of Endometrial Biopsies of 200 women with perimenopausal bleeding coming to the Gynaecological outpatient Department Gandhi Hospital, from January to December, 2015.

Materials and methods: Endometrial curettings were obtained from 200 women clinically diagnosed to have perimenopausal bleeding. The curettings were fixed in 10% formalin, which were then processed. The slides were stained with Haematoxylin and Eosin (H&E) and their histomorphological pattern was noted.

Results: Out of a total of 387 cases with dysfunctional uterine bleeding (DUB), 200 cases had perimenopausal bleeding. Most of the patients were between 46 to 50 years of age. The most important cause of perimenopausal bleeding was proliferative endometrium seen in 85 cases, followed by secretory endometrium in 49 cases. We had 36 cases of fibroids, 16 cases of simple hyperplasia, 5 cases of endometrial polyps, 4 cases of complex hyperplasia without atypia, 3 cases of complex hyperplasia with atypia and 2 cases of endometrial carcinoma.

Conclusion: Perimenopausal bleeding is common between the ages of 40 to 50 years, with a peak in the ages between 46 to 50 years. Though the commonest histomorphological profile of the endometrial curettings obtained from such patients was proliferative phase, there were cases of hyperplasia's both simple and complex with atypia. There were 2 cases of endometrial carcinomas.

Hence it is important to understand the cause of such bleeding and study the histomorphological pattern to diagnose hyperplasia's which are premalignant lesions of the endometrium and endometrial carcinoma at an early stage and prevent its complications.

Key words

Perimenopausal bleeding, Histomorphological profile, Endometrial biopsy.

Introduction

DUB is defined as all forms of abnormal uterine bleeding (AUB) [1] for which there is no detectable pathology and physical signs can be detected by clinical examination. The most important cause for DUB is anovulatory cycles, due to high levels of oestrogens. Hence, the importance to detect such conditions is to prevent endometrial carcinomas. Perimenopause is the period immediately before, 2 to 8 years, and one year after menopause. It occurs around 40 to 50 years of age, during which the regular menstrual cycle becomes irregular.

Perimenopausal bleeding is prolonged, excessive or acyclic bleeding occurring regardless of a cause. This is abnormal, hence it is AUB. There is an increased incidence of DUB due to anovulation and is abnormal bleeding from an essentially normal uterus [2, 3].

During Perimenopause, AUB is related to both altered hormonal function of ovaries and due to uterine abnormalities. It is characterised by irregularity of menstrual cycles. Though uncommon in the perimenopausal age, the rate of endometrial neoplasias [4] begins to rise sharply between the ages of 40 to 50. It may be assign of atypical hyperplasia of the endometrium, which if undiagnosed and untreated may progress to endometrial carcinoma. Although changes in the bleeding pattern in perimenopausal patients are normal, it is critical for clinicians to recognise such AUB patterns so that proper investigations can be carried out.

The causes of AUB in perimenopausal women include benign causes of the reproductive tract, commonest being Leiomyomata of the uterus and others being Polyps, Adenomyosis, Endometritis, etc. Premalignant causes are hyperplasia and malignant cause being Endometrial Carcinoma. Coagulation disorders can be a systemic cause and hormonal therapy can be an iatrogenic cause for AUB. The most important cause for DUB is Anovulation.

In the perimenopausal age, AUB is frequently related to DUB. Defects in local endometrial hemostasis leads to ovulatory bleeding while imbalance of sex steroid hormones in the absence of anatomic lesions can lead to anovulatory DUB.

Endometrial hyperplasia, a premalignant condition of the endometrium, is a non invasive proliferation with the histomorphological pattern of endometrial glands with irregular shapes and varying sizes. It is due to prolonged exposure of the endometrium to unopposed oestrogen that commonly occurs with anovulation in perimenopausal age. There is hyperplasia of both glands and stroma. It may lead to the development of endometrial carcinoma, if not detected and treated. Kurman and Norris [5] classified hyperplasia into simple and complex.

Hyperplasia is classified as simple or Complex based on the degree of glandular crowding. Current classification of endometrial hyperplasia accepted by both International Society of Gynaecological Pathologist (ISGP) and World Health organisation (WHO) [6] divides hyperplasia's on the basis of architectural features into Simple and Complex and on basis of cytological features into Typical and Atypical. Therefore, hyperplasia can be Simple or Complex and with or without atypia. Atypical Hyperplasia can again be either Simple or Complex. Atypical Hyperplasia has the

histomorphological features of architectural atypia [5] and cytomorphological atypia.

The most common lesion that predisposes to endometrial adenocarcinoma is atypical hyperplasia. If left untreated about 8% of simple atypical hyperplasia and 29% of complex atypical hyperplasia will progress to carcinoma.

Materials and methods

The endometrial curettings of 200 patients were taken over a period of 1 year (January to December 2015). All the inclusion and exclusion criteria were met with. These patients were from the Gynaecological OPD at Gandhi Hospital, who came with complaints related to changes in the bleeding pattern of their menstrual cycle [7]. They all had excessive, uncontrolled and prolonged bleeding. These patients were asked to come back for review after two weeks on the same day to consult the same physician.

Inclusion Criteria

- **Age:** Women between 40 to 50 years
- The patients were not treated for and had symptoms related to changes in the bleeding pattern of their menstrual cycle.
- They all had excessive, uncontrolled and prolonged bleeding

Exclusion criteria

- **Age:** Below 40 and above 50 years.
- Patients treated for symptoms.

Endometrial curettage samples from 200 clinically diagnosed DUB/AUB patients in perimenopausal women of age group 40 to 50 years were collected. These were fixed in 10% formalin and histopathological slides were prepared and stained with H&E. The results were then documented (**Figure – 1 to 8**).

Results

Out of a total of 387 cases of DUB, 200 cases were of the perimenopausal age of 40 to 50 years. The distribution of endometrial patterns [8] in Perimenopausal bleeding cases were as per **Table - 1**.

Figure – 1: Proliferative endometrium.

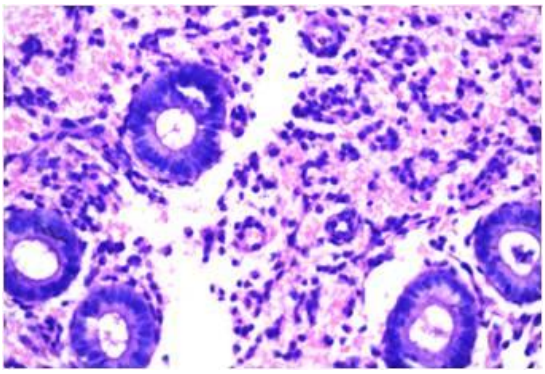


Figure – 2: Disorderly proliferating endometrium.

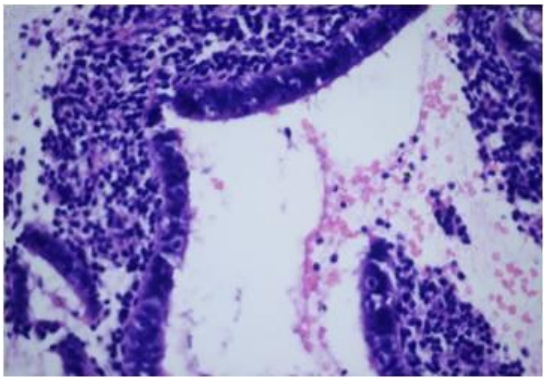


Figure – 3: Secretory endometrium.

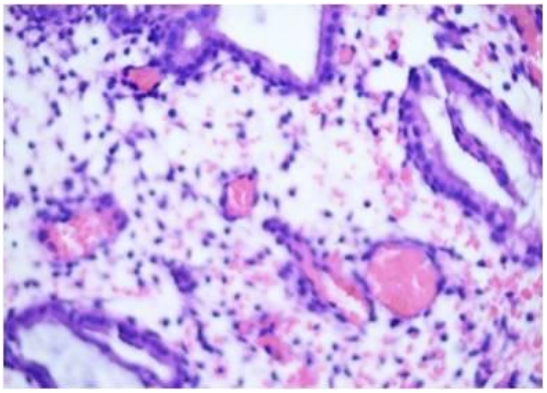


Figure – 4: Leiomyoma.

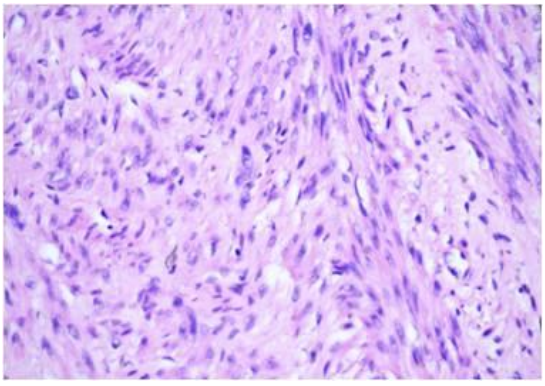


Figure – 5: Hyperplastic polyp.

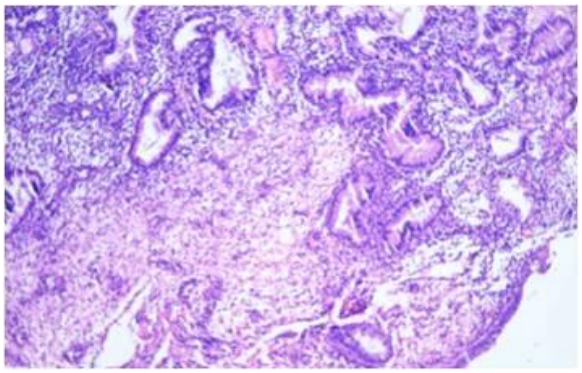


Figure – 6: Simple hyperplasia without atypia.

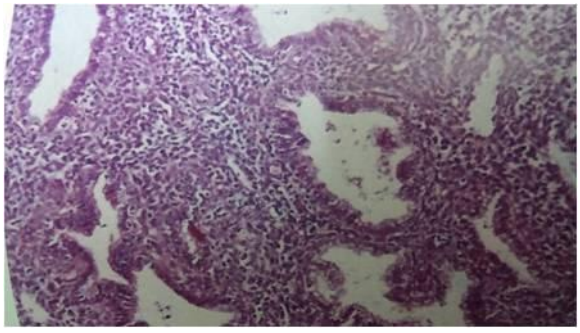


Figure – 7: Complex hyperplasia with atypia.

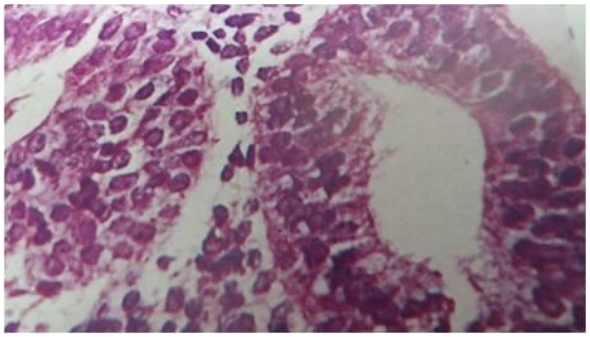
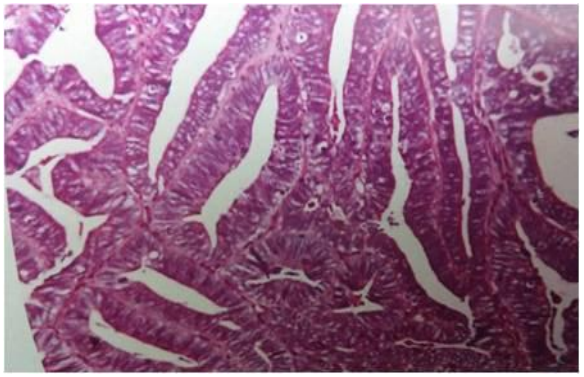


Figure – 8: Endometrial carcinoma.



There were 85 cases which had the histomorphological features [9] of proliferative endometrium which was the most common lesion accounting for 42.5% of all the cases. There were lesions of disorderly proliferating endometrium in 11 cases and one case which showed cystic change.

In the secretory endometrium there were 20 cases which were in the mid secretory endometrium.
Out of the 23 cases of Hyperplasia's, there were 16 cases of simple hyperplasia without atypia. There were 07 cases of Complex hyperplasia, of which there were 03 cases with atypia.

There were 36 cases of perimenopausal bleeding with leiomyomata. There were multiple fibroids in 09 cases. There were degenerative changes like hyaline and mucoid, in 03 each. The rest of the 21 showed the histomorphological features of leiomyomata. 15 of these were submucous fibroids. All 05 endometrial polyps were hyperplastic polyps. The 02 cases of endometrial adenocarcinoma were well differentiated carcinomas.

Discussion

DUB continues to be one of the most frequently encountered gynaecological problems. During January to December 2015, we received 387 endometrial curettings from DUB cases. The highest incidence of AUB is in the age group of 40 to 50 years. Among the various patterns of endometrium observed, incidence of proliferative endometrium was found to be high in 85 cases (42.5%), with disorderly proliferating endometrium seen in 11 cases. There were 49 cases of secretory endometrium and those in the mid secretory phase were 20, which is high for the ages between 40 to 50 years. There were 23 cases of hyperplasia's accounting for 11.5%. Of these there were 03 cases of complex hyperplasia with atypia, which is a premalignant lesion. There were 2 cases, accounting to 1%, of well differentiated adenocarcinoma of the endometrium. The other associated lesions were fibroids (36) and endometrial polyps (05).

Table – 1: Distribution of endometrial patterns in Perimenopausal bleeding.

Type of Endometrium	Number of cases	Percentage
Proliferative Endometrium	85	42.5%
Secretory Endometrium	49	24.5%
Leiomyomata	36	18%
Simple Hyperplasia	16	08%
Endometrial Polyps	05	2.5%
Complex Hyperplasia	04 - without atypia, 03 – with atypia	2.0% 1.5%
Endometrial carcinoma	02	1.0%

Conclusion

The incidence of DUB as a cause of perimenopausal bleeding in the age groups of 40 to 50 years is high. The most common histomorphological pattern of endometrium was proliferative phase (42.5%). Among Hyperplasia which constituted 11.5% of the total cases, simple hyperplasia without atypia was higher (8%), complex hyperplasia without atypia (2.0%) and with atypia was 1.5%. 1% of all the cases causing perimenopausal bleeding were endometrial carcinoma. The other lesions in the uterus which lead to perimenopausal bleeding were Fibroids and Polyps. Hence, the need to diagnose the cause of bleeding in perimenopausal women, to identify the precursor lesions namely hyperplasia especially with atypia and thereby prevent carcinomas of the endometrium and when diagnosed early to treat them effectively.

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