Analysis of Endometrial Hyperplasia in Perimenopausal Uterine Bleeding with Evaluation of Uterine and Ovarian Changes

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Research Article

Abstract: **Introduction:** Abnormal Uterine Bleeding (AUB) is among the most common health problems encountered by women especially in perimenopausal period. Chronic anovulation can lead to irregular bleeding, prolonged unopposed oestrogen stimulation of the endometrium, and increased risk of endometrial cancer. **Methods:** Total 200 cases of perimenopausal uterine bleeding in women above 40 years of age were studied with reference to endometrial hyperplasia. 110 Endometrial samples were obtained from Dilatation and Curettage and 90 samples from hysterectomy cases. Uterine and ovarian changes were observed in the 90 samples from hysterectomy cases. **Results:** Endometrial Hyperplasia was observed in 32 (16%) cases. Out of these 32 cases of hyperplasia, most of the cases i.e. 27 (84.37%) had simple type of hyperplasia, followed by 3 cases (9.37%) of complex hyperplasia. Atypical hyperplasia was found in 2 (6.25%) cases. Endometrial malignancy was detected in 2% of the total cases and all were endometrial adenocarcinoma. Associated changes in uterus observed among the 90 samples of hysterectomy were chronic cervicitis in 31 cases, Adenomyosis in 21 cases, Leiomyoma in 21 cases and Leiomyomatous polyp in 3 cases. Out of 90 hysterectomy specimens, 22 ovaries showed pathological lesion. Eleven ovaries showed follicular cyst, in four cases corpus luteum was seen, five ovaries showed epithelial tumours, Granulosa cell tumour of ovary was found in one case and a single case of fibroma of ovary was observed. **Conclusion:** Histopathological study of endometrium in females with abnormal uterine bleeding plays an important role in diagnosing various histological patterns. Endometrial hyperplasia can be evaluated for early detection of cancer endometrium which has excellent prognosis if detected in bud. Chronic cervicitis was the most common associated uterine change found in perimenopausal bleeding whereas ovarian pathology was also found in significant cases.

Keywords: Abnormal Uterine Bleeding, perimenopausal.

Introduction

Abnormal uterine bleeding is a common reason for women of all age group to consult their gynaecologist. Abnormal uterine bleeding 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. [1] Gynaecologists are often unable to identify the cause of abnormal bleeding even after a thorough history and physical examination. Perimenopause is the phase of the life of a woman when her body makes a shift from ovulatory cycles and menstruation towards a stage of permanent infertility called as menopause. Menopause is the permanent cessation of menstruation resulting from loss of ovarian follicular activity. Chronic anovulation can lead to irregular bleeding, prolonged unopposed oestrogen stimulation of the endometrium, and increased risk of endometrial cancer. It has been shown that endometrial hyperplasia is a pre-malignant condition; if treated in time, incidence can be reduced and early treatment can increase life expectancy and quality in women over age of 45 years. [2] The present study was undertaken to analyse the cases of endometrial hyperplasia in perimenopausal uterine bleeding and to evaluate the uterine and ovarian changes in the cases in which hysterectomy was done.

Methods

The present study was carried out in Department of Pathology, Government Medical College and Hospital, Aurangabad. Total 200 cases of perimenopausal uterine bleeding in women above 40 years of age were studied. Supportive data like age and menstrual status was obtained from case sheets accompanying the specimens. Detailed clinical history and examination as per proforma was taken wherever required.

Endometrial samples were obtained from:

1. Dilatation and curettage = 110 cases
2. Hysterectomy specimens = 90 cases

Specimens were received in 10% formalin. These were studied grossly and multiple sections were taken from each. Four to five micron thick paraffin embedded sections were taken and staining was done. Staining was done by Haematoxylin and Eosin in all endometrial tissues. PAS staining was done wherever required. Deep cuts, serial sections and fresh pieces were taken wherever necessary. Various histopathological endometrial patterns were studied and categorized as per standard literature. Associated pathological changes in the uterus and the ovary were recorded from the 90 hysterectomy specimens received.

Observations and Results

Table 1: Endometrial hyperplasia (n=32)

Hyperplasia	No. of cases	Percentage
Simple hyperplasia	27	84.37
Complex hyperplasia	03	09.37
Atypical hyperplasia	02	06.25

In the present study, out of 32 cases of hyperplasia, most of the cases i.e. 27 (84.37%) had simple type of hyperplasia, followed by 3 cases (9.37%) of complex hyperplasia. Atypical hyperplasia was found in 2 cases (6.25%). Malignancy was detected in the present study in 4 cases which comes to 2% of overall 200 samples studied.

Simple Hyperplasia: The endometrium in these cases showed short tubular glands lined by columnar epithelium. Few glands were cystic and dilated, lined by low cuboidal to flattened epithelium. Stroma was compact and cellular with absent or a few meiotic figures.

Complex Hyperplasia: There was increase in number of glands with disparity in gland size and crowding was observed. Columnar to cuboidal lining epithelium and also multilayering was seen.

Atypical hyperplasia: On histology, absence of myometrial invasion with prominent nuclear atypia and mitosis were found in the hyperplastic endometrial glands.

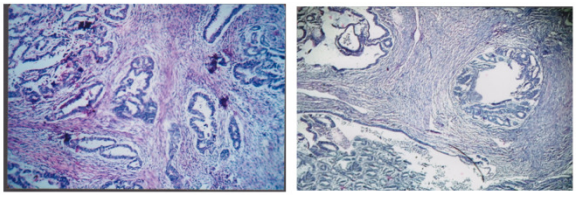

Figure 1: Well Differentiated Adenocarcinoma of Endometrium (H&Ex100)

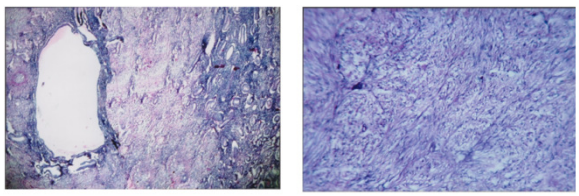

Figure 2(a) ***Figure 2(b)***

Legand:*Figure 2(a):* Adenomyosis with Cystic Hyperplasia (H&Ex100) ,***Figure 2(b):*** Fibroma of Overy (H&Ex100)

Associated changes in uterus

Table 2: Following pathological lesions were found after study of uterus from the 90 cases of hysterectomy samples received:

Pathological lesion	No. of cases	Percentage
Adenomyosis	21	27.63
Leomyoma	21	27.63
Leomyomatous polyp	03	3.95
Chronic cervicitis	31	40.78
Total	76	100.0

Maximum number of cases (40.78%) observed had chronic cervicitis followed by almost equal incidence of adenomyosis and leiomyoma. The criteria for adenomyosis was demonstration of foci of endometrial glands with stroma amidst the myometrium at least one high power field away from the basal endometrium. Leiomyomas demonstrated were submucous, intramural, subserous, single to multiple along with 3 cases of Leiomyomatous polyp.

Ovarian changes

Out of 90 hysterectomy specimens, 22 ovaries showed pathological lesion.

Out of these 11 ovaries showed follicular cyst, unilateral mostly and multiple follicular cyst in one case. In four cases corpus luteum was seen, associated with secretory endometrium. Five ovaries showed epithelial tumors i.e. 3 cases of serous cystadenoma, one case of papillary serous cystadenoma and one case of mucinous cystadenoma. Single case of fibroma of ovary was observed associated with cystic hyperplasia of endometrium. Granulosa cell tumour of ovary associated with postmenopausal bleeding and cystic hyperplasia of endometrium was observed in one case.

Discussion

Endometrial Hyperplasia: It was observed in 32 (16%) cases. Out of these 32 cases of hyperplasia, most of the cases i.e. 27 (84.37%) had simple type of hyperplasia, followed by 3 cases (9.37%) of complex hyperplasia. Atypical hyperplasia was found in 2 (6.25%) cases. Cystic glandular hyperplasia was the commonest hyperplasia observed and resulted due to anovulatory cycles common in the perimenopausal age. Failure of ovulation with persistent unripe follicles causes the endometrium to be subjected to an abnormally excessive and prolonged estrogenic action. The findings of the present study are very near to those observed by Sukhdeep [3] regarding subtypes of hyperplasia. Endometrial malignancy was detected in four (2%) of the total cases and all were endometrial adenocarcinoma. Recently a study by Damle *et al* [5] found 3 cases (9.67%) of endometrial carcinoma. Similar results were also reported by Dangal G [6] and Khare *et al*., [7].

Associated changes: 21 out of 90 cases of hysterectomy had adenomyosis of uterus. The uteri were enlarged in all

but 4 cases and the endometrial pattern observed was variable. According to Novak [4] adenomyosis usually results due to hyperestrogenism due to associated ovarian dysfunction and the patient presents with menorrhagia. Leiomyomas were observed in 21 cases and these were single to multiple and located in the submucosa, subserosa, intramural and in the form of polyp. Chronic papillary endocervicitis was the commonest pathologic finding with 31 cases.

Ovarian changes: Serous and papillary cystadenoma were associated with proliferative type of endometrium. Mucinous cystadenoma of ovary was found to be associated with adenomyosis of uterus. Fibroma of ovary along with Granulosa cell tumour of ovary was associated with cystic hyperplasia of endometrium indicating the functional status and resultant hyperestrogenism, which was the reason for development of postmenopausal bleeding in the later case. Sukhdeep [3] found adenomyosis in all 6 cases of hysterectomy and ovarian cysts in 4 cases.

Conclusion

Histopathological study of endometrium in females with abnormal uterine bleeding plays an important role in diagnosing various histological patterns. Endometrial hyperplasia can be evaluated for early detection of cancer endometrium which has excellent prognosis if detected in bud. Chronic cervicitis was the most common associated uterine change found in perimenopausal bleeding whereas ovarian pathology was also found in significant cases.

References

1. Ely JW, Kennedy CM, Clark EC, Bowdler NC. Abnormal Uterine Bleeding: A Management Algorithm. J Am Board Fam Med. 2006;19:590–602.
2. Takreem A, Danish N, Razaq S. Incidence of endometrial hyperplasia in 100 cases presenting with polymenorrhagia/menorrhagia in perimenupausal women. J Ayub Med Coll Abbottabad. 2009 Apr-Jun;21(2):60-3.
3. Sukhdeep, Bal MS, Sethi PS, Parveen. Histological alterations in endometrium in perimenopausal bleeding. Apcon 2002, Pg 22.
4. Novak E, Rutledge F. Atypical endometrial hyperplasia simulating adenocarcinoma. 1948;55(1):46-61.
5. Rajshri P. Damle, N.V. Dravid, Kishor H. Suryawanshi, Arundhati S. Gadre, Priya S. Bagale, and Neelam Ahire. J Clin Diagn Res. 2013 December; 7(12): 2774–2776.
6. Dangal G. A study of endometrium in patients with abnormal uterine bleeding at Chitwan valley. Kathmandu University Medical Journal. 2003;1(2):110–12.
7. Khare A, et al. Morphological spectrum of endometrium in patients presenting with dysfunctional uterine bleeding. Peoples's Journal of scientific research. 2012;5(2):13–16.