

SIGNIFICANCE OF HISTOPATHOLOGICAL EVALUATION IN THE DIAGNOSIS OF ENDOMETRIAL LESIONS IN PREMENOPAUSAL AND POSTMENOPAUSAL WOMEN

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Receiving Date: 02-July-2021, **Accepted Date:** 15-Sept-2021

Abstract

AIMS and Objectives: To study the incidence, clinical and histopathological correlation of various types of endometrial lesions in premenopausal and postmenopausal women.

To study the clinicopathological spectrum and histopathological evaluation of endometrium in abnormal uterine bleeding in peri-menopausal and post-menopausal age groups.

Keyword: histopathology, abnormal uterine bleeding, peri-menopausal, post-menopausal

Introduction

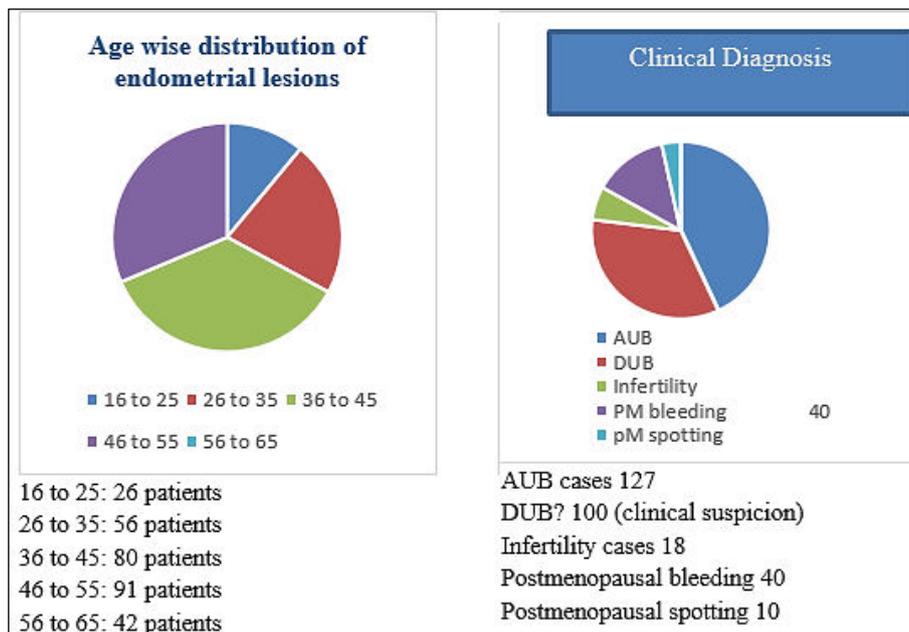
Endometrial biopsy is a safe and efficient method to evaluate the endometrium for a variety of indications, most commonly abnormal uterine bleeding and postmenopausal bleeding. Endometrial biopsy is highly specific for diagnosing atypical hyperplasia and endometrial cancer in postmenopausal women. Pregnancy is the only absolute contraindication to the procedure ^[1]. Most common causes of abnormal uterine bleeding are hormonal imbalance, pregnancy, polyp, fibroid uterus, cervicitis, uterine cancers. If the cause is hormonal imbalance, it is called as dysfunctional uterine bleeding. Hormone replacement therapy, Atrophic endometrium, bacterial vaginitis, uterine cancer, and endometrial cancers are the common causes of abnormal uterine bleeding in postmenopausal women. Abnormal uterine bleeding affects 10-30% of reproductive aged women and up to 50% of perimenopausal women. The diagnosis can be made by doing histopathological evaluation of the endometrial biopsy and Hysterectomy specimens. Histopathological evaluation of the endometrial lesions is a very valuable tool in diagnosing endometrial pathology. Accurate histopathological evaluation of endometrial biopsies can avoid unnecessary surgeries and is also useful for the early diagnosis and treatment of precancerous and cancerous lesions. Though considered benign, simple endometrial hyperplasia is followed by E3ndometrial carcinoma in 19% of the cases; complex hyperplasia with atypia is recognized as an early malignant lesion and occurs concurrently with endometrial carcinoma in 39% of the cases ^[2]. Endometrial hyperplasia is a precursor to the most common gynecologic cancer diagnosed in women: endometrial cancer of endometrioid histology. It is most often diagnosed in postmenopausal women, but women at any age with unopposed estrogen from any source are at an increased risk for developing endometrial hyperplasia. Hyperplasia with cytologic atypia represents the greatest risk for progression to endometrial carcinoma and the presence of concomitant carcinoma in women with endometrial hyperplasia. Abnormal uterine bleeding is the most common presenting symptom of endometrial hyperplasia. Histopathological examination of endometrial sample remains the gold standard for diagnosis of endometrial pathology ^[3].

Materials and Methods

A total of 295 Endometrial samples, including biopsies and uterine sections collected by Dilatation and curettage and total and partial hysterectomy with or without bilateral salpingo oophorectomy procedures in the gynecology department MNR medical college Sangareddy were sent to Pathology department for histopathological evaluation. The study was conducted between the years 2016 January to 2018 January. Patient's data collected was taken from gynecology department including age, sex, procedure of the biopsy or total or subtotal hysterectomy taken and was documented. The patients age ranged from 16 to 65 years. History taken from all the patients. The symptoms ranged from acute uterine bleeding, dysfunctional uterine bleeding, dysmenorrhea, polymenorrhoea, infertility, postmenopausal bleeding and spotting etc. Inadequate biopsy samples were excluded from the study. All the endometrial samples were fixed in formalin soon after their collection. Sections taken from hysterectomy specimens at 4-5 μ m thickness and the remaining were endometrial biopsy samples, altogether measuring 0.5 to 1 cc. The sections of uterine tissues were preserved in

10% neutral buffered formalin for histopathological examination. Tissues were processed, embedded in paraffin and sections of 5 µm thickness were prepared. These sections were stained with hematoxylin and eosin (H and E) stain and examined under microscope for histopathological evaluation. Histopathological evaluation and reporting were done in the pathology department and the results were analyzed.

Results



Results

Histopathological diagnosis

In Many patients the histopathological findings reveal endometritis, Proliferative phase endometrium, few secretory phase endometrium, Arias stella reaction, Endometrial polyps, Ovarian cysts, polycystic ovarian syndrome, simple endometrial hyperplasia, complex endometrial hyperplasia, and Endometrial carcinoma. The commonest age group between 46 to 55 years underwent most hysterectomies and endometrial biopsies. And 67 patients out of 295 showed proliferative phase endometrium. In Postmenopausal bleeding cases out of 40, 33 cases were showing proliferative endometrium with atrophic changes. 5 cases were simple hyperplasia cases, 1 case show atypical hyperplasia and 1 Endometrial carcinoma case. Among other cases 2 were simple hyperplasia and 7 atypical hyperplasia with atypia cases. Endometrial thickening more than 13 to18 mm was seen in endometrial hyperplasia cases (10.1%). In endometrial carcinoma case endometrial thickness was 19mm.

	Number of patients	Percentage
Proliferative Phase	67 Endometrial thickness 6mm	22.7%
Secretory Phase	42 Endometrial thickness 5mm	14.2%
Early secretory phase	22 Endometrial thickness 5mm	7.4%
Disordered Proliferative Phase	21 Endometrial thickness 6mm	7.1%
Endometrial polyp	6 Endometrial thickness 4 mm	2%
Endometritis	50	16.9%
Polycystic ovarian syndrome	18	6.1%
Arias stella reaction	4	1.35%
Atrophic Endometrium	35	11.8%
Simple endometrial hyperplasia without atypia	14 with endometrial thickness 13.5mm.	4.74%
Simple endometrial hyperplasia with atypia	7 with endometrial thickness 15mm	2.37%
Complex endometrial hyperplasia with atypia	8 with endometrial thickness 18mm	2.7%
Endometrial carcinoma	1 with endometrial thickness 19 mm	0.3%

Figures 1&2 Proliferative Phase endometrium

Figure 5: Atypical or complex hyperplasia

Figure 7: Endometrial carcinoma

Figure 3: Secretory phase, Figure 4 Simple Hyperplasia

Figure 6 Atypical hyperplasia

Figure 8: Endometrial carcinoma

Proliferative phase: The endometrial glands are straight, tubular and are lined by pseudo stratified columnar cells with compact and dense cellular stroma. Endometrial thickening is noted.

Disordered proliferative phase: Irregular and dilated endometrial glands in proliferative phase.

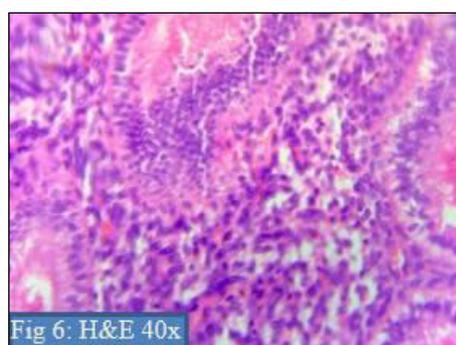
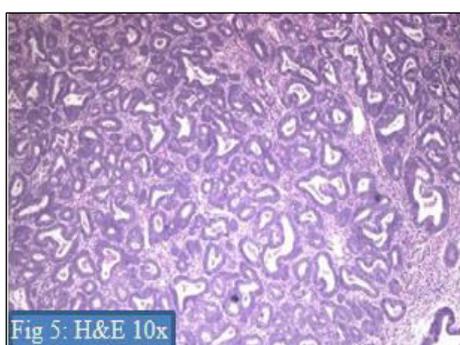
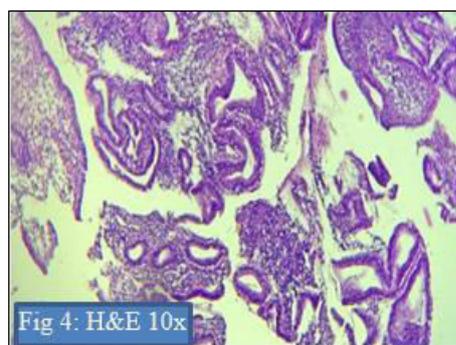
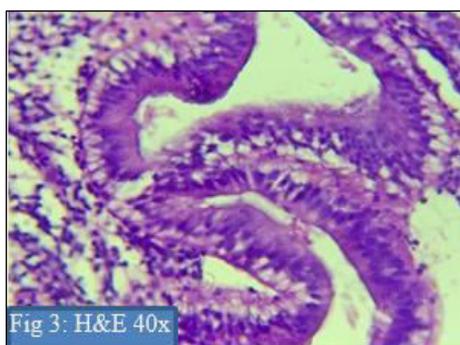
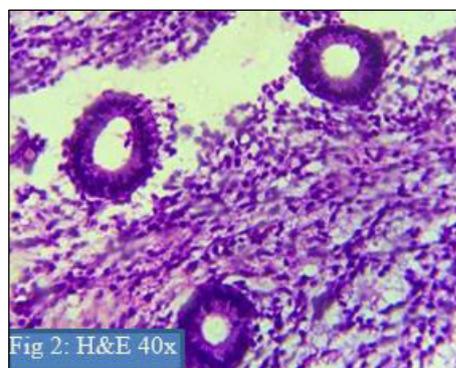
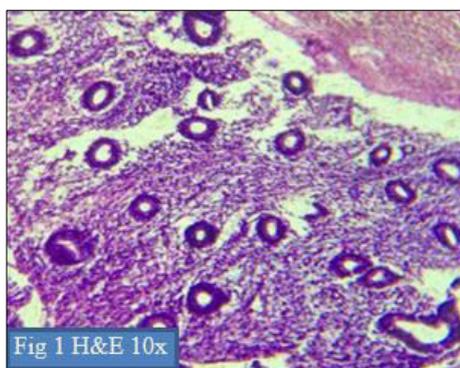
Early Secretory phase: Increase in Endometrial thickness, edematous stroma and tortuous and plump endometrial glands lined by low columnar cells with subnuclear secretory vacuoles

Late secretory phase: Saw tooth glands with supranuclear vacuoles and edematous stroma.

Simple endometrial hyperplasia: Closely packed endometrial glands and stroma in between glands with increase in gland to stromal ratio. Variation is the size of glands with cystic dilatation. Endometrial thickening is 15mm.

Atypical or complex endometrial hyperplasia with and without atypia: Increase in size and number of irregular glands, pseudo stratification, nuclear enlargement and atypia with mitoses seen. Endometrial thickening 17mm.

Endometrial carcinoma: endometrioid type: Back-to-back arrangement of endometrial glands without intervening stroma, acinar and micropapillary projections.



Discussion

Abnormal uterine bleeding and dysfunctional uterine bleeding are two most commonly encountered problems in perimenopausal age group patients. AUB is the major gynecological problem in the present situation and also one of the causes of hysterectomy. It was determined by our study that the maximum common age group associated with abnormal uterine bleeding was 46-55 years and the similar incidence was stated by way of Muzaffar *et al.*,^[3] Yusuf *et al.*,^[4] and Doraiswami *et al.*,^[5] The histopathological findings in the endometrial biopsy showed various patterns proliferative phase (22.7%) commonest followed by the secretory phase (14.2%) the disordered proliferative phase (7.1%) are in concordance with Gorla *et al.*,^[6] and Byna *et al.*,^[7] They reported 45.56%, 32.59%, and 9.63% for proliferative phase, secretory phase and disordered proliferative phase respectively. Study of atrophic endometrium constituted 3.8% with most cases presenting in the postmenopausal age group. This is similar to another report by other researchers^[8]. Endometrial thickness in this study was 5-10 mm with (59%) which correlates with (46.4%) of Pillai *et al.*,^[9] as most of the cases were taken from the

premenopausal age group. Increased ET >15 mm showed 4 cases (5%) of hyperplasia compared with 8 cases (4.7%) of hyperplasia of Geetha Lakshmi *et al.*,^[10] Hence the patients with abnormal USG showed abnormal endometrial pathology with more cases of endometrial hyperplasia and carcinoma.

Conclusion

Histopathological evaluation is essential in the confirmation and diagnosis of various pathological lesions of endometrium. Endometrial biopsies and hysterectomy specimens help to analyze the diverse causes of abnormal menstrual bleeding.

Conflict of interest: There is no conflict of interest

Acknowledgement

Authors are extremely thankful to the MNR medical college Sangareddy, for providing support to conduct the research work smoothly.

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