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Original Research

Histopathological assessment of endometrial biopsies

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ABSTRACT:

Aim: To assess endometrial biopsies histopathologically. **Methodology:** Eighty- eight samples of endometrial biopsies and curettings from women presenting with abnormal uterine bleeding were fixed in 10% formal saline and routinely processed and stained with H&E. Histopathological assessment was done under light microscope and consensus diagnosis was confirmed. **Results:** Age group 18-30 years had 38, 31-40 years had 20, 41-50 years had 16 and >50 years had 14 patients. A significant difference was observed (P< 0.05). Endometrial biopsies were normal with proliferative phase in 10 and secretory phase in 4 cases. Inflammatory were acute endometritis in 22, chronic endometritis in 13 and chorioamnionitis in 5 cases, proliferative non-neoplastic such as endometrial polyp in 18, typical in 6 and atypical in 4 cases, neoplastic such as leiomyoma in 1, partial mole in 2, complete mole in 1 and endometroid carcinoma in 2 patients. The difference was significant (P< 0.05). **Conclusion:** Most common lesion found was inflammatory followed by proliferative non-neoplastic, normal and neoplastic.

Key words: endometrium, hysterectomy, neoplastic

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INTRODUCTION

The endometrium may be examined as part of a hysterectomy specimen and may be the site of a primary or secondary neoplastic process.[1] Histological characteristics of endometrial biopsy material as assessed by light microscopy remain the diagnostic standard for the clinical diagnosis of endometrial pathology. Indeed, the initial diagnosis is made by endometrial biopsy or by curettage, which in itself may be therapeutic. The biopsy or curettage may not sample the entire endometrium, and the areas of greatest histological or cytological severity may thus escape histological identification.[2]

Management of abnormal uterine bleeding (AUB) is not complete without tissue diagnosis especially in peri-menopause and post menopause. AUB may be the symptom of endometrial carcinoma in 8 – 50% of cases. It has been found to be linked with almost any type of endometrium ranging from normal endometrium to hyperplasia, irregular ripening, chronic menstrual irregular shedding and atrophy.[3] It is evident that histological variations of the endometrium is useful in detecting various disease patterns. It can be assessed with the help of age of patients, the phase of menstrual cycle and iatrogenic use of hormones.[4]Endometrial biopsies are obtained for a number of reasons that include abnormal uterine bleeding in certain age groups, incomplete abortions, or suspected neoplasia and the endometrium may be sampled prior to certain procedures to treat infertility to determine the phase of the cycle to guide further tests or treatments.[5]The present study was histopathological assessment of endometrial biopsies.

METHODOLOGY

This prospective observation study comprised of eighty- eight samples of endometrial biopsies and curettings from women presenting with abnormal uterine bleeding. All gave their written consent for participation in the study. Ethical clearance was obtained from Patients' details such as name, age, etc. was recorded in performed. Samples were fixed in 10% formal saline and routinely processed and stained with H&E. Histopathological assessment was done under light microscope and consensus diagnosis was confirmed. Results thus obtained were subjected to statistical analysis. Results were tabulated and assessed statistically using SPSS version 21.0. Chi-square test was used for statistics. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Age group (Years)	Number	P value
18-30	38	0.05
31-40	20	
41-50	16	
>50	14	

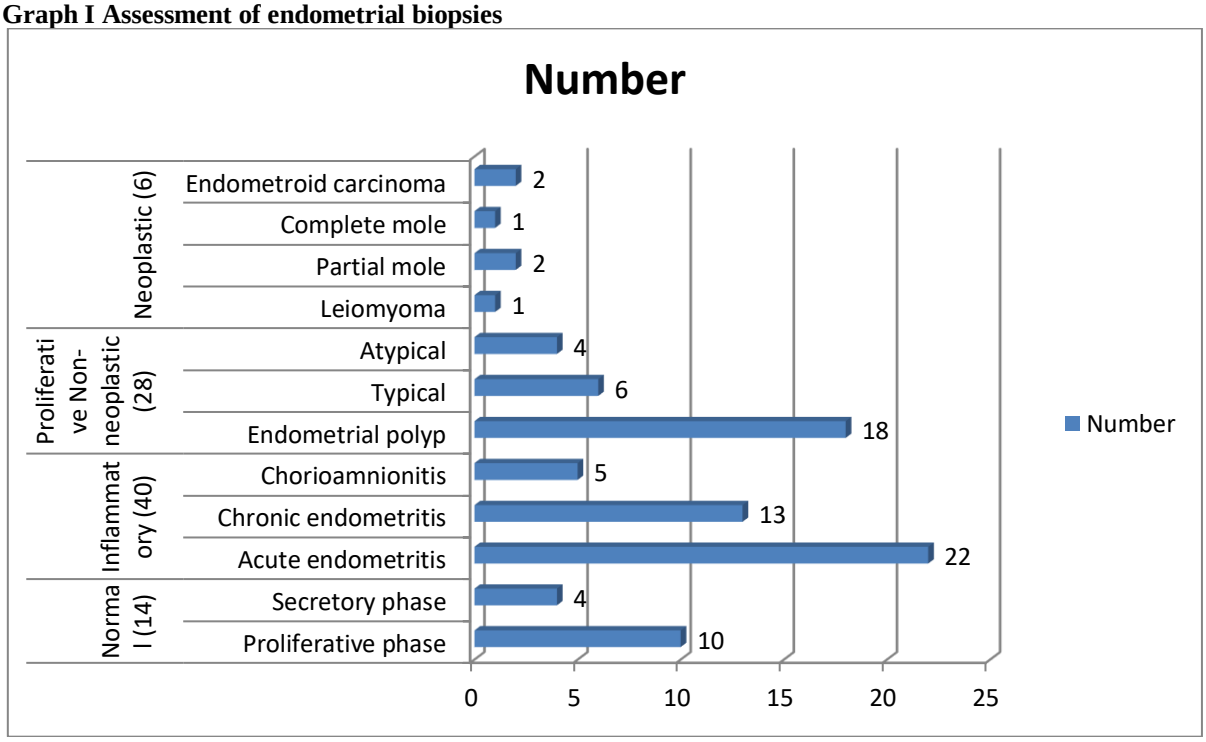
Age group 18-30 years had 38, 31-40 years had 20, 41-50 years had 16 and >50 years had 14 patients. A significant difference was observed (P< 0.05).

Table II Assessment of endometrial biopsies

Parameters	Variables	Number	P value
Normal (14)	Proliferative phase	10	0.01
	Secretory phase	4	
Inflammatory (40)	Acute endometritis	22	0.02
	Chronic endometritis	13	
	Chorioamnionitis	5	
Proliferative Non-neoplastic (28)	Endometrial polyp	18	0.03
	Typical	6	
	Atypical	4	
Neoplastic (6)	Leiomyoma	1	0.92
	Partial mole	2	
	Complete mole	1	
	Endometroid carcinoma	2	

Endometrial biopsies were normal with proliferative phase in 10 and secretory phase in 4 cases. Inflammatory were acute endometritis in 22, chronic endometritis in 13 and chorioamnionitis in 5 cases, proliferative non-neoplastic such as endometrial polyp in 18, typical in 6 and atypical in 4 cases, neoplastic such as leiomyoma in 1, partial mole in 2, complete mole in 1 and endometroid carcinoma in 2 patients. The difference was significant (P< 0.05) (Table II, graph I)

Graph I Assessment of endometrial biopsies



DISCUSSION

It is found that in about 10% of patients, endometrial cancer may be the outcome of abnormal perimenopausal or postmenopausal bleeding.[6] Atypical endometrial hyperplasia is the outcome of endometrial cancer and may progress over time to

endometrial cancer in 5-25% of patients.[7] Hysteroscopy is accepted as the gold standard for evaluating endometrial pathologies as the endometrial cavity may be directly observed with hysteroscopy, which also enables concurrent treatment.[8] Recent studies report that routine endometrial sampling is controversial as they are associated with high costly, high morbidity, and anxiety in patients.[9,10]The present study was histopathological assessment of endometrial biopsies.

Our results showed that Age group 18-30 years had 38, 31-40 years had 20, 41-50 years had 16 and >50 years had 14 patients. Inal et al[11] investigated the relationship between indications and histopathological results in patients undergoing endometrial sampling. Data of 4,247 patients undergoing endometrial sampling were retrospectively evaluated. The mean age of patients was 46.8 ± 8.22 years; the most common indication was menometrorrhagia/ menorrhagia (70.66%), and the least common indication was cervical polyp (1.34%). The most common histopathological result was proliferative-secretory endometrium (63.62%); simple hyperplasia with atypia (0.56%) was determined to be the least common result. Endometrial cancer was observed more frequently in the post-menopausal bleeding and increased endometrial thickness group (23.11%). Of patients in whom biopsy was performed, 52.18% had undergone hysterectomy, as a result of which proliferative–secretory endometrium was most commonly (59.52%) and simple hyperplasia with atypia least commonly found as the histopathological diagnosis.

Our results demonstrated that endometrial biopsies were normal with proliferative phase in 10 and secretory phase in 4 cases. Inflammatory were acute endometritis in 22, chronic endometritis in 13 and chorioamnionitis in 5 cases, proliferative non-neoplastic such as endometrial polyp in 18, typical in 6 and atypical in 4 cases, neoplastic such as leiomyoma in 1, partial mole in 2, complete mole in 1 and endometroid carcinoma in 2 patients. Doraiswami et al[12] found that 41–50 years was most commonly involved age group with abnormal uterine bleeding seen in 33.5%. The commonest pattern in these patients was normal cycling endometrium seen among 28.4%. The commonest pathology was disordered proliferative pattern seen in 20.5%. Other causes identified were complications of pregnancy (22.7%), benign endometrial polyp (11.2%), endometrial hyperplasias (6.1%), carcinomas (4.4%) and chronic endometritis (4.2%). Endometrial causes of AUB and age pattern was statistically significant.

Dijkhuizen FP et al[13] calculated the fraction of cases of endometrial carcinoma and atypical hyperplasia that were identified correctly as well as the fraction of women in whom these diseases were diagnosed false positively. The detection rate for endometrial carcinoma was higher in postmenopausal women compared with premenopausal women. In both postmenopausal and premenopausal women, the Pipelle was the best device, with detection rates of 99.6% and 91%, respectively. For the detection of atypical hyperplasia, there was only one study that reported explicitly on postmenopausal women, thereby hampering the possibility of subgroup analysis. Again, the Pipelle was the most sensitive technique with a sensitivity of 81%. The specificity of all devices was > 98%.

Baral et al[14] in their study a total of 300 specimens were analyzed. In the group of patients less than 40 years of age, 73 (50%) were normal, 34 (23%) had abnormal physiologic changes and 13 (9%) had pregnancy related complications and benign changes. In the age group between 40 – 55 years, abnormal physiological changes, benign conditions and normal physiological changes were 45 (32%), 41 (29%) and 37 (26%) respectively. In the age group > 55 years, there were 3 (21%) malignant and 3 (21%) benign conditions. There were 5 (36%) unsatisfactory samples in this age group.

Endometrial biopsy before the hysterectomy due for benign indications has become an indispensable routine procedure for clinicians. This biopsy procedure may lead to loss of labor, infection, or bleeding. The consistency between the results of endometrial biopsy performed before hysterectomy and histopathological diagnosis is quite variable.[15]

CONCLUSION

Most common lesion found was inflammatory followed by proliferative non-neoplastic, normal and neoplastic.

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