

ORIGINAL RESEARCH

Histopathological Study of Endometrial Biopsy Samples in Abnormal Uterine Bleeding

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ABSTRACT

Objective - The objective of the current study was to investigate the range of histopathological findings in the endometrium of women experiencing abnormal uterine bleeding. **Materials and methods**- The study focused on analyzing endometrial specimens received for histopathological examination with a clinical diagnosis of abnormal uterine bleeding (AUB). The study excluded inadequate samples, postoperative patients, postpartum cases, and instances of bleeding associated with pregnancy. **Results**- A total of 50 patients were observed in the study. Out of 50 cases, 40 (80%) cases had non-neoplastic lesions and 10 (20%) cases had neoplastic and related endometrial lesions. **Conclusion**- Postmenopausal bleeding was a frequent presentation among women with malignant and premalignant conditions, occurring in 18% of cases collectively. Prompt histopathological evaluation of abnormal uterine bleeding (AUB) can be crucial for saving lives through early tissue diagnosis and appropriate management.

Keywords- uterine, hormonal, perimenopausal

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INTRODUCTION

Abnormal uterine bleeding (AUB) encompasses any deviation from normal menstrual patterns, including variations in frequency, duration, and the pattern of bleeding throughout the menstrual cycle or menopause.^{1,2} It is a prevalent gynaecological issue leading to a significant number of medical visits among women. The causes of AUB are diverse and vary across different age groups.

AUB accounts for a substantial portion of outpatient visits to gynecology departments, making up over 70% of all gynaecologic consultations for premenopausal and postmenopausal women.³ This condition can have detrimental effects on a woman's physical, mental, and social well-being. It is also a common cause of anemia, particularly in the developing world, impacting women's daily activities and quality of life.^{4,5}

The etiology of AUB varies with age, with hormonal imbalances commonly implicated in the reproductive age group, while hyperplasia and malignancies are prevalent causes in perimenopausal and menopausal women. Untreated endometrial hyperplasia can lead to severe consequences, including malignancy. Endometrial biopsy serves as the gold standard

method for differentiating between normal and pathological endometrium.^{6,7}

The objective of the current study was to investigate the range of histopathological findings in the endometrium of women experiencing abnormal uterine bleeding.

MATERIALS AND METHODS

The study focused on analyzing endometrial specimens received for histopathological examination with a clinical diagnosis of abnormal uterine bleeding (AUB). The study excluded inadequate samples, postoperative patients, postpartum cases, and instances of bleeding associated with pregnancy. Endometrial tissues collected were fixed in 10% formalin, processed, embedded in paraffin, sectioned at 3-4 μm thickness, and stained with hematoxylin and eosin for microscopic analysis.

Pathologists examined the sections under light microscopy, correlating the histopathological findings with the clinical details of the patients included in the study.

RESULTS

A total of 50 patients were observed in the study. Out of 50 cases, 40 (80%) cases had non-neoplastic lesions and 10 (20%) cases had neoplastic and related endometrial lesions.

Among the cases, 80% of the non-neoplastic lesions, with normal endometrial patterns being the most prevalent. For a detailed breakdown of the histopathological patterns of non-neoplastic lesions, refer to Table 1.

Table 1 Histopathological pattern of non-neoplastic lesions

Histopathological Diagnosis	N (%)
Normal Endometrial Patterns	
Proliferative Phase	12(24)
Secretory Phase	6 (12)
Atrophic (Postmenopausal)	2 (4)
Weakly Proliferative (Postmenopausal)	2 (4)
Other than Normal Endometrial Patterns	
Non-Secretory Endometrium	4 (8)
Disordered Proliferative Endometrium	4 (8)
Secretory Patterns	
Out of Phase Secretory Endometrium	1 (2)
Dyssynchronously Developed Secretory	1 (2)
Gestational Pattern	
Gestational Pattern without Placental Tissue/Fetal Parts	1 (2)
Retained Bits of POC	1 (2)
Inflammatory Pattern	
Chronic Nonspecific Endometritis	4 (8)
Acute Endometritis/Pyometra	1 (2)
Granulomatous Endometritis	1 (2)
Total	40(80)

Normal endometrial findings included 24% in the proliferative phase, 12% in the secretory phase, 4% atrophic (postmenopausal), and 4% weakly proliferative (postmenopausal). Non-neoplastic lesions categorized as other than normal endometrial patterns comprised 8% each of non-secretory endometrium and disordered proliferative endometrium. Secretory patterns exhibited 2% each of out-of-phase secretory endometrium and dyssynchronously developed secretory endometrium.

Gestational findings, such as gestational pattern without placental tissue/fetal parts and retained bits of products of conception, were observed at 2% each. Within the inflammatory pattern group, chronic nonspecific endometritis accounted for 8%, while acute endometritis/pyometra and granulomatous endometritis were both noted at 2%. The total sample size analyzed in this study equated to 40 cases, representing 80% of the study cohort.

Table 2: Histopathological patterns in Neoplastic lesions

Neoplastic lesions	Histopathology	n (%)
Benign lesions	Endometrial polyp	1(2)
Pre-malignant lesions	Simple hyperplasia without atypia	2(4)
	Simple hyperplasia with atypia	1(2)
	Complex hyperplasia without atypia	1(2)
	Complex hyperplasia with atypia	1(2)
Malignant Lesions	Endometrioid adenocarcinoma	2(4)
	Clear cell carcinoma	2(4)
Total		10(20)

In Table 2, the histopathological patterns observed in neoplastic lesions are categorized into benign, pre-malignant, and malignant lesions. Benign lesions included endometrial polyp at 2%. Pre-malignant lesions comprised 4% each of simple hyperplasia without atypia, 2% each of simple hyperplasia with atypia, complex hyperplasia without atypia, and complex hyperplasia with atypia. Malignant lesions consisted of endometrioid adenocarcinoma and clear

cell carcinoma, each at 4%. The total number of neoplastic lesions analyzed in this study was 10, representing 20% of the cases studied.

DISCUSSION

Abnormal uterine bleeding (AUB) presents with diverse manifestations and stems from various underlying causes, posing significant social and physical burdens across all communities. Therefore, it

necessitates thorough evaluation and tailored management strategies.^{8,9}Endometrial assessment serves the purpose of evaluating the hormonal effects on the endometrium and plays a crucial role in identifying both pre-cancerous and cancerous conditions.^{10,11}

The primary goal of performing endometrial curettage in cases of excessive uterine bleeding is to rule out the presence of local intrauterine abnormalities like incomplete abortion, uterine polyps, endometritis, and carcinoma as potential causes of the abnormal bleeding. In our study out of 50 cases, 40 (80%) cases had non-neoplastic lesions and 10 (20%) cases had neoplastic and related endometrial lesions.

Specifically, findings included 24% in the proliferative phase, 12% in the secretory phase, 4% atrophic (postmenopausal), and 4% weakly proliferative (postmenopausal). Non-Neoplastic lesions outside the normal endometrial patterns accounted for 8% each of non-secretory endometrium and disordered proliferative endometrium. Secretory patterns showed 2% each of out-of-phase secretory endometrium and dyssynchronously developed secretory endometrium. Additionally, 2% of cases were identified with gestational patterns, such as those without placental tissue/fetal parts or with retained bits of products of conception. In terms of inflammatory patterns, 8% were associated with chronic nonspecific endometritis, while 2% each were linked to acute endometritis/pyometra and granulomatous endometritis.

Atrophic endometrium accounted for 4% of the total cases, with the majority of cases observed in the postmenopausal age group, aligning closely with findings from a study by Bhatta S et al.¹² Benign endometrial polyps constituted 2% of the total cases in this study, a percentage that closely mirrors the results reported in a study conducted by Khan et al.¹³

CONCLUSION

Postmenopausal bleeding was a frequent presentation among women with malignant and premalignant conditions, occurring in 18% of cases collectively. Prompt histopathological evaluation of abnormal uterine bleeding (AUB) can be crucial for saving lives through early tissue diagnosis and appropriate management.

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