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Decoding FIGO Staging In Postmenopausal Endometrial Cancer: A Window Into Prognosis

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ABSTRACT:

Background: Endometrial carcinoma (EC) is a common malignancy of the uterus, predominantly affecting postmenopausal women. This case series examines three cases of endometrial carcinoma in menopausal women, with a focus on the correlation between clinical findings, FIGO staging, and histopathological results from endometrial biopsy and hysterectomy specimens.

Cases: The first patient, a 56-year-old woman, had postmenopausal bleeding and was diagnosed with endometrioid endometrial carcinoma, FIGO grade II. The second patient, a 63-year-old woman, also presented with abnormal bleeding and was diagnosed with Papillary serous endometrial carcinoma, FIGO grade II. The third patient, a 64-year-old woman, presented with postmenopausal bleeding and was diagnosed with endometrioid endometrial carcinoma, FIGO grade I. Patients underwent surgical management, and the final histopathological diagnosis correlated with the preoperative findings.

Conclusion: Endometrial biopsy played a crucial role in initial diagnosis and guided the staging process, but hysterectomy and subsequent pathological examination provided definitive staging. The correlation between FIGO staging, clinical presentation, and histopathological findings reinforced the significance of early diagnosis and intervention in improving patient outcomes. This case series highlights the importance of comprehensive evaluation, including clinical assessment, imaging, biopsy, and surgical management, for accurate diagnosis and staging of endometrial carcinoma in menopausal women.

Keywords: *Endometrial carcinoma, FIGO staging, endometrial biopsy, hysterectomy.*

INTRODUCTION:

Endometrial carcinoma (EC) is the most common invasive malignancy of the female genital tract, with a rising incidence globally and in India [1]. It primarily affects postmenopausal women, with risk factors including obesity, diabetes, hypertension, and hormonal imbalances associated with lifestyle changes [2]. The increasing incidence and mortality rates of EC are concerning, with projections indicating further rises in the coming decades [3,4].

Despite these alarming trends, advancements in the understanding of EC have paved the way for improved therapeutic strategies. Early diagnosis and appropriate treatment selection play a critical role in patient outcomes, emphasizing the need for precision in clinical assessment. The Fédération Internationale de Gynécologie et d'Obstétrique (FIGO) staging system serves as the cornerstone in guiding treatment decisions, helping clinicians determine prognosis and tailor interventions accordingly [5]. Accurate staging and histopathological correlation are essential to avoid both under-treatment, which may lead to disease progression, and over-treatment, which can negatively impact the patient's quality of life [3,4].

This case series emphasizes the significance of correlating clinical presentation, histopathology, and FIGO staging to enhance management outcomes in postmenopausal women diagnosed with EC. By analyzing various cases, we aim to highlight key diagnostic challenges and therapeutic considerations that contribute to optimizing patient care, ultimately improving survival rates and quality of life in affected individuals.

CASE REPORTS:

Case 1: A 56-year-old postmenopausal woman presented with a suprapubic mass and vaginal bleeding for one month. Imaging revealed a large intramural fibroid and thickened endometrium. Endometrial biopsy revealed glands in a back-to-back pattern with minimal intervening stroma, villoglandular and papillary architectures, squamous metaplasia, desmoplasia, and focal hemorrhage. Figure 1a.

A total hysterectomy was performed, revealing a 2x1.2x1.1 cm endometrial growth along with a 15x13x12.5 cm lipomatous fibroid. Diffuse endometrial thickening with hemorrhage and necrosis was identified. Microscopic analysis confirmed the initial biopsy findings. Figure 1b,c. No lymph node involvement was observed.

Diagnosis: Endometrioid carcinoma, NOS (FIGO Grade II), TNM staging: pT1aN0Mx.

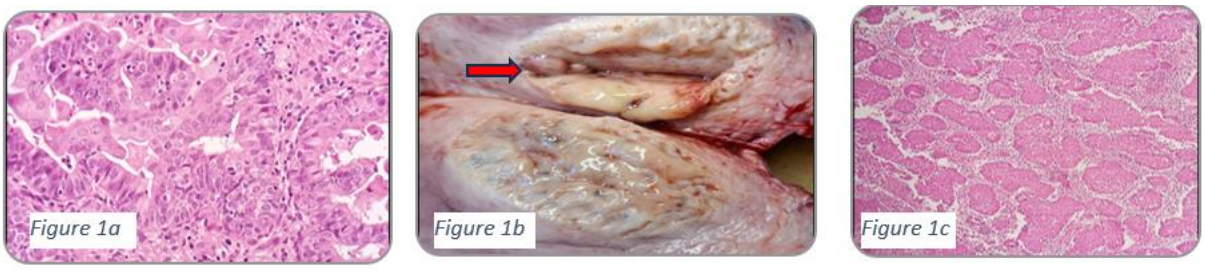

Figure 1: (a) H&E stain 400X, (b) Gross image, growth in endometrial cavity, (C) H&E stain 100X, Lobular and solid pattern

Case 2: A 63-year-old postmenopausal woman (7 years) presented with vaginal bleeding for 4 months. Endometrial biopsy revealed tumor cells with papillary, micropapillary, and solid patterns (6-50%). The cells exhibited hyperchromatism, pleomorphism, high N:C ratio, and scant cytoplasm. Areas of hemorrhage, necrosis, and desmoplasia were noted. Figure 2a,b.

Diagnosis: Papillary serous carcinoma, high-grade (Type II), FIGO Grade II.

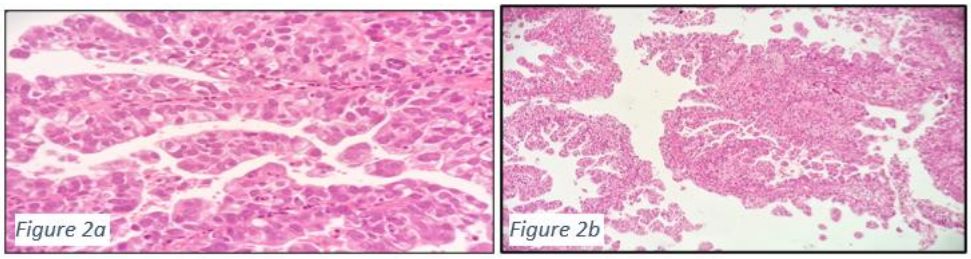

Figure 2: (a) H&E stain 100X, (b) H&E stain 400X, Papillary pattern.

Case 3: A 64-year-old postmenopausal woman presented with vaginal bleeding for 3 months. Endometrial biopsy revealed endometrial glands with stratification, moderate nuclear atypia, frequent mitosis, luminal secretions, neutrophilic infiltration, and focal squamoid differentiation.

Total hysterectomy revealed a 3.5x3x2 cm polypoidal growth filling the uterine cavity. Microscopic examination confirmed villoglandular variant of endometrioid carcinoma with moderate nuclear atypia. No lymph node metastasis was noted. Figure 3a,b.

Diagnosis: Endometrioid carcinoma, villoglandular variant, well differentiated, TNM staging: pT1aN0Mx.

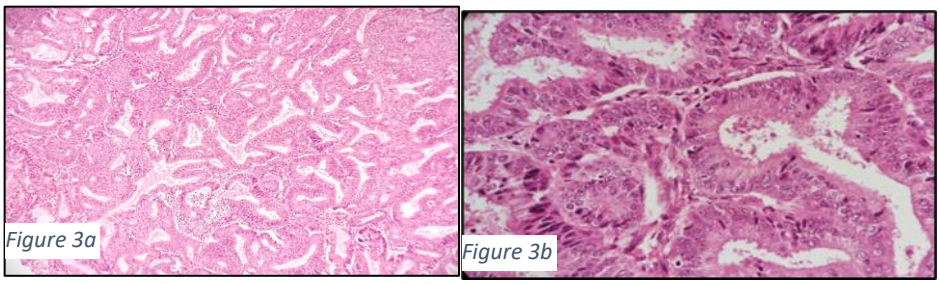

Figure 3: (a) H&E stain 100X, back to back glandular pattern(b) H&E stain 400X, stratification of glands.

DISCUSSION: This case series highlights the diverse histopathological presentations of endometrial carcinoma (EC) and emphasizes the critical role of the International Federation of Gynecology and Obstetrics (FIGO) staging system in guiding treatment strategies. Accurate staging is paramount for risk stratification, prognosis determination, and therapeutic decision-making. The revised 2023 FIGO staging system has introduced refinements that enhance diagnostic precision, ensuring optimal patient management and improved survival outcomes [6].

Case 1: The first case involved a moderately differentiated endometrioid carcinoma (FIGO Grade II), coexisting with an intramural fibroid. This combination presented a diagnostic and clinical challenge due to overlapping symptoms and potential misinterpretation of imaging findings. The tumor was classified as stage IA under the FIGO 2023 guidelines, with invasion confined to less than 50% of the myometrium. Importantly, the absence of lymph node involvement (pN0) suggested a favorable prognosis and reduced the necessity for adjuvant therapy [7]. Accurate histopathological evaluation and surgical staging, including lymphadenectomy when indicated, [8] were essential in formulating a conservative yet effective management plan.

Case 2: The second case presented a high-grade papillary serous carcinoma (FIGO Grade II), which exhibited aggressive histopathological features such as marked nuclear atypia, desmoplasia, and significant architectural complexity. Given its aggressive nature, the patient was staged as II under the FIGO 2023 guidelines due to pelvic lymph node metastases. Papillary serous carcinoma is known for its propensity for early extrauterine spread, necessitating a more intensive therapeutic strategy, including radical surgery followed by adjuvant chemotherapy and/or radiation therapy [9]. The inclusion of sentinel lymph node mapping in the FIGO 2023 revisions has further refined staging accuracy, reducing unnecessary lymphadenectomy-related morbidity while maintaining oncological safety [10,11].

Case 3: The third case featured a low-grade endometrioid carcinoma (FIGO Grade I) with limited myometrial invasion, classified as stage IA under the 2023 FIGO criteria. The tumor was restricted to the endometrium with less than 5 mm of myometrial infiltration, confirming an excellent prognosis. This case underscores the importance of early detection through endometrial biopsy and imaging. The revised FIGO system emphasizes the role of molecular markers such as POLE mutations, microsatellite instability (MSI), and p53 status in refining risk stratification and treatment personalization [12,13].

The Significance of the FIGO Staging System in EC Management: The FIGO staging system remains the gold standard for endometrial carcinoma classification, integrating clinical, radiological, and pathological data. The 2023 revision has further refined staging parameters, incorporating molecular markers and refining the definitions of metastatic spread to improve prognostic accuracy [14]. These updates facilitate precise risk stratification, optimizing treatment selection [1] while minimizing overtreatment risks. Integrating advanced imaging modalities such as MRI and PET-CT alongside intraoperative frozen sections enhances staging accuracy, thereby improving patient outcomes [15,16].

CONCLUSION

This study emphasizes the histopathological variability of endometrial carcinoma, value of integrating clinical assessment, histopathology, and the indispensable role of accurate FIGO staging in guiding the management of endometrial carcinoma in postmenopausal women. Early, precise diagnosis helps in enhancing outcomes, especially in low-grade tumors, while robust intervention is needed in high-grade variants. Treatment tailored based on meticulous histological insights not only improves survival but also helps to pave the way for innovative diagnostic and therapeutic strategies. Further research is needed to refine diagnostic approaches and enhance treatment strategies for this patient population.

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