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Primary Umbilical Endometriosis Presenting as a Solitary Umbilical Nodule: A Rare Cutaneous Manifestation

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Keywords:
Primary umbilical endometriosis; Cutaneous endometriosis; Umbilical nodule; Histopathology; Extragenital endometriosis

Abstract:

Background: Primary umbilical endometriosis is a rare form of cutaneous endometriosis occurring without prior surgical intervention and often mimics other benign or malignant umbilical lesions.
Case Presentation: A 34-year-old nulliparous woman presented with a solitary umbilical nodule of six months' duration associated with mild pain and occasional spontaneous bleeding. There was no history of prior abdominal surgery. Examination revealed a 2 cm firm, well-defined, dark-brown nodule within the umbilicus. Differential diagnoses included keloid, pyogenic granuloma, metastatic deposit, and cutaneous endometriosis. Routine investigations and pelvic ultrasonography were normal. Histopathology demonstrated endometrial glands lined by simple columnar epithelium surrounded by endometrial-type stroma, confirming the diagnosis.
Conclusion: Primary umbilical endometriosis should be considered in the differential diagnosis of umbilical nodules in women of reproductive age. Histopathological confirmation is essential, and complete surgical excision is curative.

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Introduction

Endometriosis is defined as the presence of functional endometrial tissue outside the uterine cavity. [1] While pelvic organs are commonly involved, extragenital endometriosis is relatively rare.[1] Cutaneous endometriosis accounts for a small proportion of cases, with the umbilicus being an uncommon site. Primary umbilical endometriosis, also known as Villar's nodule, occurs spontaneously without prior surgical manipulation.[2] Due to its varied clinical presentation, it may mimic several benign and malignant conditions, posing a diagnostic challenge.

Case Report

A 34-year-old nulliparous woman presented with a solitary swelling over the umbilicus for six months. The lesion was gradually progressive and associated with mild pain and occasional spontaneous bleeding. There was no history of trauma, abdominal surgery, or similar lesions elsewhere. She denied dysmenorrhea, dyspareunia, or infertility.
On examination, a well-defined, firm, dark-brown nodular lesion measuring approximately 2 × 2 cm was observed within the umbilicus **(Figure 1)**. The surface was smooth without ulceration or discharge. Surrounding skin was normal, and no regional lymphadenopathy was noted.

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Based on clinical findings, differential diagnoses included keloid, pyogenic granuloma, melanocytic lesion, Sister Mary Joseph nodule, and cutaneous endometriosis. Routine laboratory investigations were within normal limits. Transabdominal and transvaginal ultrasonography revealed no evidence of pelvic pathology or internal endometriosis.

An excisional biopsy was performed. Histopathological examination revealed endometrial glands lined by simple columnar epithelium embedded within a cellular endometrial-type stroma with focal hemorrhage **(Figures 2, 3, and 4)**. These findings confirmed the diagnosis of primary umbilical endometriosis.

Discussion

Primary umbilical endometriosis is a rare entity, accounting for less than 1% of extragenital endometriosis.[2] The exact pathogenesis remains unclear; proposed mechanisms include lymphatic or hematogenous spread, embryonic cell rests, and coelomic metaplasia.[3]

Clinically, it presents as a pigmented or bluish nodule that may exhibit cyclical changes; however, such classical symptoms are not always present. The lesion may mimic keloid, pyogenic granuloma, melanoma, or metastatic carcinoma, particularly Sister Mary Joseph nodule.[4] Furthermore, we have fouund that, pain/ bleeding was non-cyclical thus showed an atypical presentation of the disease.

Histopathological examination remains the gold standard for diagnosis, demonstrating endometrial glands and stroma. Imaging studies help exclude pelvic involvement. The treatment of choice is complete surgical excision with clear margins, which is usually curative with minimal recurrence.[5]

Conclusion

Primary umbilical endometriosis is an uncommon but important differential diagnosis of umbilical nodules in women of reproductive age. A high index of suspicion and histopathological confirmation are essential to establish diagnosis and exclude malignancy. Surgical excision offers definitive management with excellent prognosis.

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Figure Legends

Figure 1. Clinical image showing a dark brown, well-defined umbilical nodule with a smooth surface

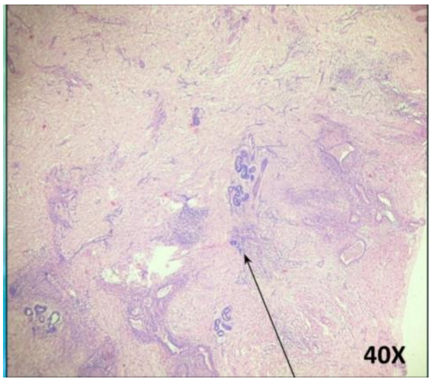

Figure 2. Histopathology (H&E stain, ×40) showing endometrial glands embedded within the dermis.

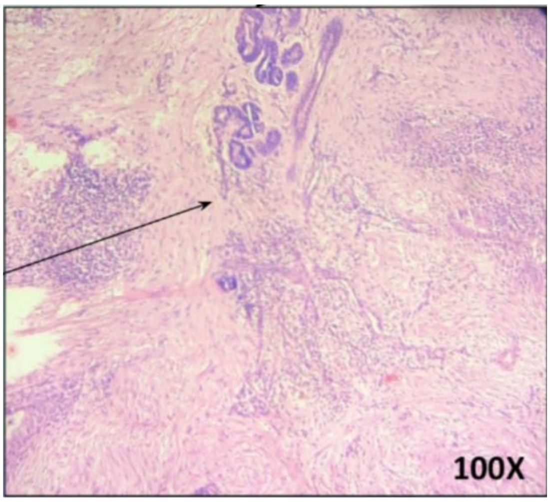

Figure 3. Histopathology (H&E stain, ×100) showing glandular structures surrounded by dense cellular stroma.

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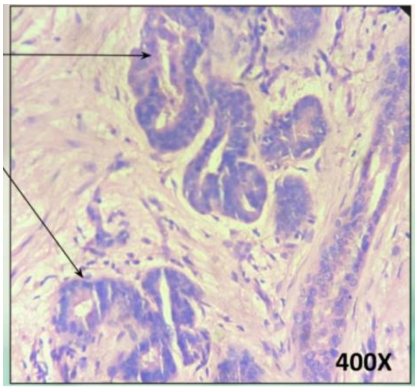

Figure 4. High-power histopathology (H&E stain, ×400) showing endometrial glands lined by simple columnar epithelium and characteristic endometrial-type stroma.