



Umbilical endometriosis mistaken for a keloid in a premenopausal woman of Caribbean descent

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CASE DESCRIPTION

A 32-year-old premenopausal woman with no prior pregnancies presented to the Dermatology Mission Clinic (www.DermatologyMissions.org) with a mass in her umbilicus. This international volunteer program was established in St George's, Grenada, as a collaboration with the Ministry of Health to improve dermatologic care for underserved populations. The lesion was present for approximately 18 months, with associated symptoms of pruritus and irritation at the lesion; she noted that the symptoms were worse after menstruation. However, she denied dysmenorrhea, dyspareunia, or dyschezia. The remainder of her medical history was unremarkable, and she took no prescription medications. The patient was single, denied any history of infertility, and had no history of abdominal or pelvic surgery or trauma. She was previously referred to a general surgeon, who had diagnosed keloids approximately 1 year before her presentation to our dermatology clinic. She was prescribed betamethasone 0.05% cream, with no improvement. She subsequently underwent 3 intralesional injections of triamcinolone over the next 2 months, also with no clinical effect. Routine gynecologic evaluation approximately 1 year before presentation found incidental uterine leiomyoma, and she received depot medroxyprogesterone acetate. During this time, the lesion did not change in appearance but were no longer painful.

On physical examination, a single hyperpigmented nodule with papillary projections, 1 cm in diameter, was located in the umbilicus, with a slight

violaceous quality and nontender to palpation (Fig 1). There was no associated blanching with the lesion.

At the time of her visit to our dermatology clinic, a presumptive diagnosis of cutaneous umbilical endometriosis was made, and a 3-mm punch biopsy of the lesion was taken. Histopathologic evaluation found tall columnar epithelium with basophilic cytoplasm and basally located oval vesicular nuclei, consistent with endometrial glands, as well as stroma containing small spindle cells. These findings were diagnostic for cutaneous endometriosis. Healing from the biopsy was unremarkable. She subsequently underwent surgical excision of the lesion. Although she required no prescription medications, she medicated herself with local herbal tea remedy made by the "tree of life" bush (*Guaiacum officinale*, Lignum vitae).

DISCUSSION

Endometriosis is defined as endometrial tissue outside of the uterine cavity. Common locations for endometriosis are the ovaries, fallopian tubes, and peritoneum. Endometriosis is fairly common, affecting as many as 1% to 5% of reproductive-age women.¹ This condition classically presents with a triad of dysmenorrhea, dyspareunia, and dyschezia, with cyclical pain that fluctuates with the patient's menstrual cycle. Endometriosis is very often associated with infertility and ectopic pregnancy.¹ Spread of endometrial implants to extrapelvic organs, such as the lung and skin, occurs less

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Fig 1. Darkly hyperpigmented, indurated, and papillomatous nodule within the umbilicus.

commonly, with estimates between 12% and 34% of patients.¹⁻³

Umbilical endometriosis represents a rare subtype of cutaneous endometriosis. The greatest risk factor for developing cutaneous endometriosis is a history of abdominal or pelvic surgery, including cesarean section, laparoscopy, amniocentesis, abortion, and inguinal hernia repairs.^{2,4-6} In many cases of umbilical endometriosis, the umbilicus had served as a site for trocar placement.^{2,4-7} In addition, cases of spontaneous umbilical endometriosis are reported. It is hypothesized that the umbilicus, even in the absence of iatrogenic manipulation, represents a physiologic scar that may support the development of ectopic endometrial tissue. Alternatively, metaplasia of local tissue or activation and differentiation of precursor cells may explain the formation of endometrial tissue.^{6,7} It remains to be elucidated if additional factors in the local tissue environment participate in the development and propagation of endometriosis, either by facilitating transport, encouraging local metaplasia, or driving differentiation in the absence of the postoperative healing processes.

The diagnosis of cutaneous/umbilical endometriosis presents unique challenges. In contrast to other forms of extrapelvic endometriosis, implants on the skin are less likely to present with classical symptoms. In a recent case series of 15 patients with umbilical endometriosis, only 20% of the patients reported pain as a presenting symptom.⁵ The differential diagnosis includes umbilical hernia, keloid, suture granuloma, desmoid tumor, desmoid cyst, lipoma, papilloma, Sister Joseph's node, or abscess.^{2,5,6,8} Furthermore, in dark-skinned individuals, pigmented lesions are more likely to mimic atypical melanoma, pigmented basal cell carcinoma, and pigmented dermatofibroma sarcoma protuberans (Bednar tumor). Therefore, clinicians must be

aware of the additional lesions, such as cutaneous endometriosis, than may mimic common lesions in this population.

Surgical excision is typically recommended and represents the preferred modality for both diagnosis and treatment. Cutaneous/umbilical endometriosis tends to be less amenable to medical management, possibly because of relatively low levels of estrogen receptors found on cutaneous implants.⁹ Although complete excision represents definitive treatment, there is still a risk of recurrence. Surgical removal may also be beneficial to patients, as (although rare) instances of malignant transformation have been reported.⁴ Homeopathic therapy with "tree of life" (*G officinale*) has been used for several medical conditions, particularly arthritis and gout. Several components of this plant, including polytriterpenoids and saponins, may influence the disease course through either anti-inflammatory properties or influence on hormonal balance.¹⁰ However, there is very limited high-quality research regarding the efficacy of treating endometriosis with *G officinale*.

Given its wide range of potential clinical presentations, practitioners in various specialties should consider the possibility of cutaneous endometriosis. Dermatologists, rather than surgeons or gynecologists, may encounter such cases, especially in patients without pain and other classical symptoms of endometriosis.⁵ Furthermore, this case supports the need for better access to dermatologic care, even in populations that might not be considered high risk for skin malignancy or in resource-limited settings. The availability of practitioners with dermatological expertise, including an awareness of variations in presentation of pigmented lesions that occur in various ethnic backgrounds, played a crucial role in helping this patient receive an accurate diagnosis and definitive treatment. Given the risk of malignant transformation,⁴ this intervention has potentially prevented further morbidity and mortality.

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