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Photo vignette

Painful nodule in the caesarean section scar of a young woman

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Abstract

Endometriosis is the presence of ectopic endometrial tissue outside the uterus and cutaneous endometriosis is a rare manifestation of this disease that may be found at the sites of surgical scars as a result of iatrogenic implantation. Herein we present a case of scar endometriosis in a 35-year-old woman. The scar was sustained following a remote caesarean section.

Keywords: cutaneous endometriosis

Case synopsis

An otherwise healthy 35-year-old woman presented to our dermatology clinic with a 3.5 year history of an enlarging and intermittently tender nodule in her cesarean scar. This growth developed as a small nodule on the leftward aspect of her Pfannenstiel incision approximately 6 months following caesarean section 4 years prior. The nodule had waxed and waned in size over two years and had been rapidly enlarging over six to eight months. She had not experienced any cyclic symptoms such as increased pain, swelling, or bleeding from the nodule associated with her menses. She had an obstetric history significant for three vaginal deliveries and one cesarean section via a standard Pfannenstiel incision for pre-eclampsia at 29 weeks gestation. No treatments had been undertaken prior to initial presentation. Examination of the left suprapubic skin revealed a 5 x7 cm, dark brown, firm, smooth, mobile tender nodule with a 0.5 cm, light blue, translucent papule located in the superomedial portion of the nodule (Figure 1). An 8 mm punch biopsy of the lesion was obtained and sent for histopathological evaluation. No regional adenopathy was appreciated.



Figure 1. Dark brown, firm, smooth mobile tender nodule with a 0.5 cm, light blue, translucent papule located in the superomedial portion of the nodule embedded in caesarean section scar.

Histopathological examination revealed scattered and grouped, variably sized glands in the mid and deep reticular dermis lined by cuboidal and focally columnar epithelium surrounded by a mucinous and edematous stroma with an

admixed focally dense lymphocytic infiltrate and fibrosis (Figures 2, 3). These findings were diagnostic for cutaneous endometriosis in this clinical setting.

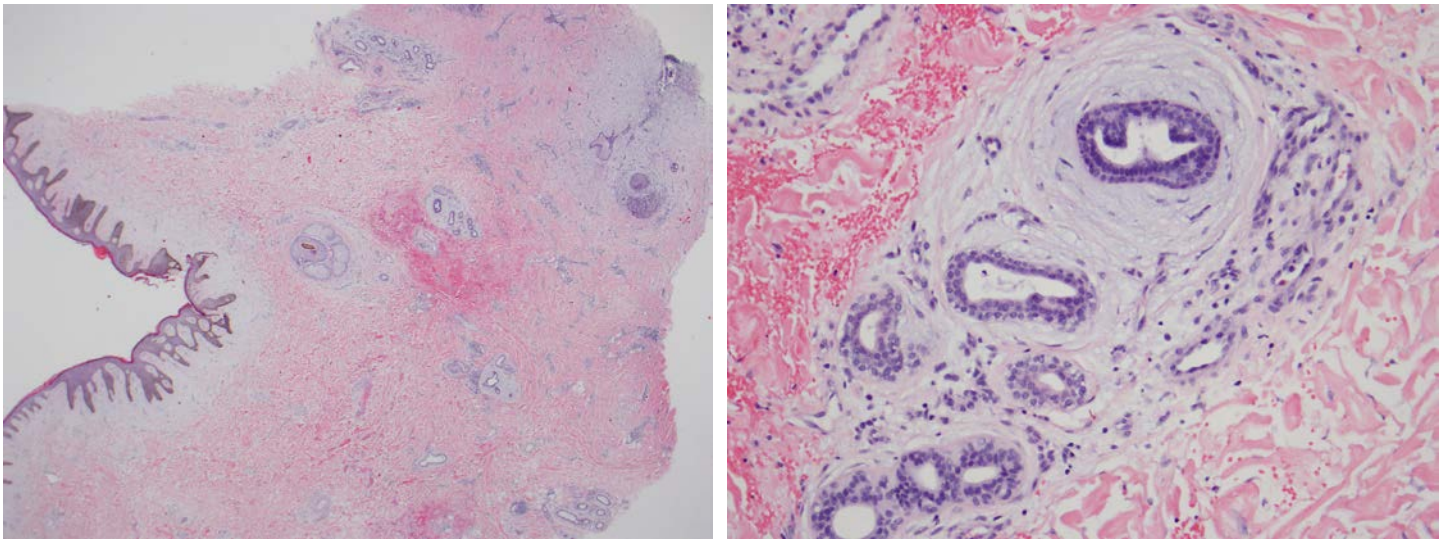


Figure 2. Variably sized glands in the mid and deep reticular dermis. **Figure 3.** Glands lined by cuboidal and focally columnar epithelium surrounded by a mucinous and edematous stroma.

The patient was referred to the gynecological surgery department for further management and definitive treatment. She underwent magnetic resonance imaging (MRI) for pre-surgical evaluation for abdominal wall and deep pelvic endometriosis, which revealed a multilobulated 4.5 x 4.4 cm mass located within the soft tissues of the left lower quadrant just anterior to the rectus abdominis muscle. Additional smaller endometriomas within the medial aspect of the rectus abdominis muscles and infiltrating the underlying fat were appreciated. The patient subsequently underwent an exploratory laparotomy with resection of three endometriomas from the skin and subcutaneous tissue of the left lower abdominal wall and the right and left rectus sheath. Her post-operative course was unremarkable and she remains pain-free to date.

Discussion

Endometriosis is a common gynecological disorder and is defined by the presence of functional ectopic glandular and stromal endometrial tissue in both pelvic and extra-pelvic locations, including the pelvic peritoneum, ovaries, and rectovaginal septum, and, in rare cases, on the diaphragm, pleura, and pericardium. Endometriosis affects 6 to 10% of women of reproductive age [1]. Cutaneous endometriosis is a rare form of this disease, with an estimated prevalence of approximately 1% in all patients with extrapelvic disease [2]. It is characterized by implants of endometrial tissue in the dermis, subcutis, or even skeletal muscle [2]. This presents as often painful and even intermittently bleeding firm red to bluish papules and nodules that may flare during menses. These symptoms may be associated with menorrhagia, dysmenorrhea, abdominal pain, infertility, dyspareunia, and painful defecation, all of which are common signs of pelvic endometriosis. There are two theories proposed for the etiology of cutaneous endometriosis: primary (spontaneous) endometriosis, which frequently affects the umbilicus and arises owing to cellular metaplasia, and secondary endometriosis, which is theorized to develop as a consequence of tubal regurgitation, lymphatic or hematogenous spread, or iatrogenic mechanical uterine tissue implantation sustained during surgical interventions (e.g., caesarean sections, myomectomies, abdominopelvic laparotomies, or episiotomies) [3,4]. The latter entity typically presents as a nodule within the scar of a previous surgical site [3].

Clinical diagnosis is made by careful history and physical exam. Often suspicion is not raised owing to the rarity of this entity and biopsy is necessary. Histopathological exam is essential for diagnosis and consists of an admixture of variably sized glandular structures, which are capable of cyclical variation, comprised of cuboidal to columnar cells with largely banal cytomorphology [2]. The stroma is described as having a spindled cell appearance with an associated vascular network. Rarely, malignant transformation can occur [2]. Immunohistochemistry may have utility in aiding in the diagnosis of cutaneous endometriosis. CD10 is expressed in a wide range of cell types, including strong expressivity in the cytoplasm of endometrial stroma; this latter characteristic has particular applicability if the lesion has limited glandular structures relative to stroma in the biopsy specimen [2]. Estrogen and progesterone receptor immunostains reveal strong nuclear positivity in both glands and stroma as well and are useful for diagnostic support.

Subsequent imaging procedures can support the diagnosis, and MRI is particularly useful for pre-surgical mapping and observation of infiltrative disease in the abdominal wall and subcutaneous tissues [5]. The clinical differential diagnosis includes

keloid scar, hernia, abscess, granulomatous inflammation, hemangioma, cyst, malignancy, desmoid tumor, melanocytic nevus, melanoma [4, 5, 6].

Wide local surgical excision is the accepted treatment of choice in most cases of cutaneous endometriosis with relatively minimal risk for recurrence [4, 7]. Additionally, there are variably successful reports of use of hormonal-based therapies such as androgen and estrogen analogues and GnRH agonists. These may have particular advantages when used in cases with coexistent pelvic endometriosis [4]. Moreover, hormonal therapies may be employed preoperatively to reduce the total burden of disease, thereby decreasing the ultimate surgical defect.

In summary, cutaneous endometriosis is an infrequent type of extrapelvic endometriosis and should be considered in the differential diagnosis in women presenting with papular or nodular lesions of the umbilical skin or embedded within or near pelvic surgical scars sustained following gynecological or obstetrical procedures. The diagnosis is made after a thorough history and physical exam in conjunction with histopathological review of lesional skin. The treatment of choice is surgical excision.

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