

Scar Endometriosis Presenting as a Painful Abdominal Mass

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Abstract

Abdominal wall scar endometriosis occurs in 1%–2% of women following a cesarean section delivery. We report a case of a 36-year-old woman with scar endometriosis, presenting with an acute, painful abdominal wall mass. She underwent a cesarean section 8 years before presentation. She was admitted to the emergency room for physical examination of the abdomen, which revealed a palpable mass. Abdominal computed tomography (CT) revealed an ill-defined soft-tissue lesion over the left rectus abdominis muscle (abdominal scar). Surgical removal of the abdominal wall mass was performed with adequate clearance margins with a preoperative diagnosis of postcesarean scar endometriosis. Postcesarean scar endometriosis is a rare cause of an abdominal mass; however, when this condition presents acutely, it can be difficult to diagnose. In this case, careful analysis of the patient's history, CT images, and histopathological results together confirmed the diagnosis. Surgical excision was performed under general anesthesia while maintaining adequate clearance margins.

Keywords: Abdominal mass, abdominal scar, cesarean section, endometriosis, scar endometriosis

INTRODUCTION

Endometriosis is a clinical condition with a prevalence rate of 5%–10% in young women.^[1] Extra-pelvic endometriosis is rare but was reported in a wide range of sites.^[2] Abdominal wall scar endometriosis is found in 1%–2% of women following cesarean section.^[3] The American College of Obstetricians and Gynecologists practice bulletin provided guidelines for the medical treatment after confirmation of the diagnosis and staging of endometriosis according to operational findings.^[4] Here, we report one such rare case of scar endometriosis presenting as an acute, painful abdominal wall mass and discuss the approach used for its diagnosis.

CASE REPORT

A 36-year-old woman presented at our clinic with abdominal pain. Her medical history was remarkable only for a cesarean

section performed 8 years ago. Following the cesarean section, the incision was healed without any symptoms presented for 5 years. Before seeking treatment, the woman experienced pain in her left lower abdomen near the incision for 2–3 years without any gastrointestinal symptoms (nausea, vomiting, or diarrhea). Her pain presented intermittent pattern and could be induced by changing body position and worsened during her menstrual period. Recently, her symptoms got worse and became excruciating pain. In the emergency room, we performed physical examination and showed a bulging, palpable, and nonmovable lesion with local tenderness in the left lower abdominal region similar to an incisional hernia. Although the laboratory data showed a normal range of white blood cell count, and she still underwent abdominal computed tomography (CT) to rule out emergent surgical conditions, such as incarcerated incisional hernia. We noted a mass in the left rectus sheath region under

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Article History:

Submitted: 1 August 2018

Revised: 23 September 2019

Accepted: 4 February 2020

Published: 28 April 2020

Access this article online

Quick Response Code:



Website:
www.e-gmit.com

DOI:
10.4103/GMIT.GMIT_74_18

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How to cite this article: Chen LY, Hsu SD. Scar endometriosis presenting as a painful abdominal mass. *Gynecol Minim Invasive Ther* 2020;9:98-100.

the incision [Figure 1], which led us to suspect postcesarean section-related granuloma tissue.

For symptom relief and to investigate further, we discussed the findings with the patient and arranged a surgical intervention *viz-a-viz* removal of the abdominal wall mass. Preoperative diagnostic tests, including blood tests and chest radiography, revealed no obvious abnormalities.

Subsequently, as planned, we removed the abdominal wall mass under general anesthesia. During the surgery, we noted a dense tissue in the rectus abdominis muscle with some residual blood clots. We removed the dense tissue with residual blood clots as much as possible and checked the bleeder thoroughly. We closed the fascia of muscle with 2-0 Vicryl and the skin with a 3-0 Nylon sutures. The patient was discharged 3 days after the procedure. The final pathology report revealed endometriosis [Figure 2]. During the outpatient follow-up, the surgical wound had gradually healed, and no complications occurred in the postoperative 30 days. No recurring symptoms were noted in the 6-month follow-up.

DISCUSSION

Endometriosis is a common disease in premenstrual women. When it presents in a cesarean section scar (57%), it is called as abdominal wall endometriosis, scar endometriosis, or surgical scar endometriosis.^[1,5] However, endometriosis in an abdominal lesion or a foreign body diagnosed with scar with fibrosis is rare. Differential diagnoses include inguinal or incisional hernia.^[5] Oh *et al.* reported nine patients with abdominal wall endometriosis, six of whom visited the general surgery clinic with suspected diagnoses of desmoid tumor, epidermal cyst, granuloma in the postoperative scar, or endometriosis.^[2] However, diagnosing endometriosis, particularly by physicians who are not gynecologists, remains a challenge.^[6] Therefore, endometriosis should be considered in women who present with the abdominal wall lesions of unknown etiology following invasive gynecological procedures.

Most patients with abdominal scar endometriosis present with a mass (96%) and pain (87%).^[5] However, endometriosis may present with acute abdominal symptoms mimicking incarcerated or recurrent hernia.^[7] Preoperatively, it is challenging to differentiate endometriosis from other abdominal masses (diagnostic rate: 20%–50%).^[3] A definite diagnosis of scar endometriosis is dependent on the pathology rather than visual identification.^[4] Abdominal scar endometriosis may be associated with the implantation of endometrial cells during a previous gynecologic surgery. However, 20% of cases in one study showed spontaneous



Figure 1: Computed tomography scan revealed that the abdominal lesion invaded the right rectus abdominis muscle

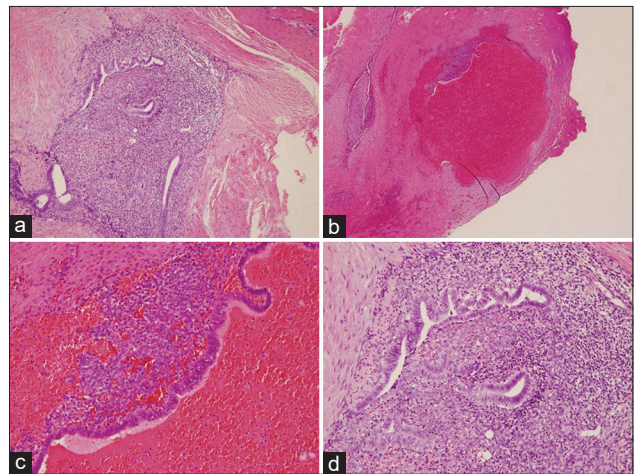


Figure 2: Endometriosis was found in the muscle tissue (3a and d). Some blood clots with endometriosis tissue were found with H and E staining (b and c). (a) H and E staining $\times 100$, (b) H and E staining $\times 40$, (c) H and E staining $\times 200$, (d) H and E staining $\times 200$

abdominal wall endometriosis.^[5] Possible etiologies proposed include metaplasia of the peritoneal epithelium (the celomic metaplasia theory), hematogenous spread, and lymphatic dissemination.^[4] Our patient had undergone cesarean section 8 years ago, which can result in endometrial cell implantation in the rectus abdominis muscle.

Sonography, CT, and magnetic resonance imaging (MRI) may be helpful for diagnosing scar endometriosis. Sonography may be used to observe lesions of various sizes in the different phases of the menstrual cycle. Scar endometriosis may appear as a hypoechoic lesion with thick echogenic strands, which often overlaps with fibrous lesions.^[3] Scar endometriosis may present as an ill-defined, hyperattenuating, or spiculated soft-tissue mass on contrast CT. The lesion can also be observed on enhanced MRI, which has a superior resolution compared with CT.^[3] This imaging modality can confirm the location and boundaries of the lesion to guide the surgeon.

In our case, a diagnosis of incisional hernia was suspected before imaging was conducted. Following the CT scan, postcesarean section scar formation or stitch granuloma was suspected. In this situation, some authors suggested that fine-needle aspiration biopsy may be used to establish a preoperative diagnosis.^[8] However, fine-needle aspiration biopsy guided by imaging is not always successful,^[9] thus necessitating further surgical intervention to directly obtain a pathological specimen. In clinical practice, we recommend performing a wide surgical excision with clear margins for suspected endometriosis to prevent localized recurrence.^[9]

CONCLUSION

Abdominal wall endometriosis in women after cesarean section has been frequently reported.^[2,8,9] However, postcesarean scar endometriosis is a rare cause of an abdominal mass. When it presents acutely, it can be difficult to diagnose in the clinical setting. In our case, careful attention to medical history combined with imaging and histopathology together confirmed the diagnosis. Endometriosis should be considered in women who have undergone gynecological surgeries and present with an abdominal mass of unknown cause. Following the diagnosis, wide surgical excision was performed keeping adequate clearance margins to prevent recurrence of endometriosis as the definitive treatment.

Ethical approval

This study was approved by the institutional review board of Tri-Service General Hospital (TSGHIRB No.: 2-108-05-183).

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the consent form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient

understands that her name and initials will not be published and due efforts will be made to conceal the identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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