

A Rare Case of Trocar Site Endometriosis managed Laparoscopically

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ABSTRACT

Abdominal wall endometriosis, also known as scar endometriosis, is extremely rare and mainly occurs at surgical scar sites. To our knowledge, 15 case reports related to trocar site endometriosis have been published in the English language and literature to date. The traditional age old management of scar endometriosis has been wide local excision leaving a healthy margin, but recently laparoscopy has emerged out to be the management of choice even in cases of scar endometriosis. Herein, we present the case of a 39-year-old woman (who had been previously operated on for left ovarian endometrioma 11 years ago by laparoscopy) with the complaint of a painful mass at the right suprapubic trocar site in a cyclic pattern. Consequently, the scar endometriosis was excised laparoscopically, following which the patient was completely relieved of her symptoms.

Keywords: Trocar site endometriosis, Laparoscopic excision, Abdominal wall endometriosis.

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INTRODUCTION

Endometriosis is defined as the presence of functioning endometrial glands and stroma outside the usual location in the lining of the uterine cavity.¹ Endometriomas have been found in association with surgical scars from a variety of procedures. With the increased use of laparoscopy, a few case reports have described abdominal wall endometriomas at port sites.²⁻⁴ This study presents the case of a patient with secondary trocar site endometriosis, who previously had undergone laparoscopic resection of a left ovarian endometriotic cyst. The rarity involved in this case is based upon two aspects, one

being the development of trocar site endometriosis after the removal of a previous ovarian endometrioma and the second being complete surgical management of scar endometriosis by laparoscopic approach, which in itself is rare and has not been mentioned in the literature as per our knowledge. Blanco et al⁵ described 12 cases of abdominal wall endometriomas with only one having a preexisting endometriosis, while in another series of 17 patients, associated pelvic endometriosis was present in as much as 24% of the cases.⁶

CASE REPORT

A 39-year-old female P1L1A1, married for 14 years, presented to our outpatient clinic with complaints of right lower quadrant abdominal pain for 2 months. Pain was acute, excruciating and had a cyclical pattern. Her medical history included a laparoscopic endometrioma resection 11 years back, one cesarean section 7 years back and curettage for missed abortion 6 years back. Her complains of severe dysmenorrhea associated with tenesmus dates back 18 years back, for which she was prescribed oral contraceptive pills for 3 to 4 years, but was not relieved. Menstrual cycles were regular. In 2003 (11 years back), she underwent laparoscopic resection of a 4 × 5 cm left sided endometrioma with fulguration of few endometriotic implants in the pouch of Douglas. Histopathological evaluation of the cystectomy material had confirmed the diagnosis of endometriosis, and the patient was placed on medical therapy. She was on oral contraceptive pills for another 4 years but symptoms persisted. On this admission, she stated that pain in the abdominal wall commenced a few months after the laparoscopic surgery, was cyclical in nature and had worsened progressively over the previous 2 months, to an extent that pain was relieved only on injectable analgesics. Pain was localized in the right lower quadrant near the previous trocar site and would exaggerate on 3rd to 4th days of the cycle.

On inspection, two healed scars compatible with trocar port sites: one inferior to the umbilicus (per umbilical trocar, 10 mm) and the other on the right lower quadrant (right side trocar, 5 mm) was observed. On palpation, localized tenderness over the right lateral suprapubic trocar site was felt. Routine biochemical tests and CA-125 were within normal ranges. Abdominal computed

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tomography scan showed multiple subcentimeter sized contiguous peripherally enhancing nodules in the right iliac fossa region, lateral to cecum with thickened parietal peritoneum. On corroborative T1W MR axial sections, multiple tiny hyperintense nodules consistent with endometriotic deposits in the right iliac fossa, was found.

Patient was planned for laparoscopic exploration under general anesthesia. Findings on laparoscopy showed a large port site endometriotic mass in the right anterior abdominal wall (5 × 6 cm), adjacent to the round ligament, fixed to the surrounding tissues which was extending into the posterior rectus fascia (Fig. 1). There were few endometriotic implants in the pouch of Douglas with dense adhesions. Bilateral tubes and ovaries were stuck in ovarian fossa. Adhesiolysis was done and anatomy restored. Endometriotic areas were cauterized. Extensive dissection of the mass was done (Fig. 2). The underlying fascia and the muscle that contained palpable tumefactions were also excised (Fig. 3), and port site closed. Pathologic examination revealed foci

of endometriosis comprising of endometrial glands and stroma within connective tissue, along with hemosiderin-laden macrophages. The patient was put on GnRH agonist once a month for 6 months. On further follow up, she was completely relieved of her symptoms and resumed her daily activities from 3rd postoperative day.

DISCUSSION

Endometriosis, first described by Rokitansky in 1861, is a common benign gynecologic disorder defined as ectopic implantation of endometrial glands and stroma outside the uterine cavity.³ Endometriosis can also be classified as pelvic or extrapelvic according to its location. Pelvic endometriosis includes lesions of the fallopian tubes, ovaries, and pelvic peritoneum. Extrapelvic endometriosis refers to endometriotic implants found in other areas of the body, including the gastrointestinal tract, pulmonary structures, urinary system, abdominal wall, skin, and even the central nervous system. With the introduction of laparoscopy into both general and gynecologic surgery over the past 20 years, many complications associated with trocar port sites have been reported. Though the most frequent complication is an incisional hernia, especially with large-diameter trocars, tumor cell seeding along the trocar tract and trocar site endometriosis are two rare complications.⁷ In searches of the PubMed, Google Scholar, and Medline databases using the search terms 'endometriosis,' 'scar endometriosis,' 'abdominal wall endometriosis,' and 'trocar' alone and, in various combinations, very few English-language articles on trocar site endometriosis were found. Denton et al⁸ reported the first case of trocar site endometriosis in 1990. The first reported case of abdominal wall endometrioma in laparoscopic trocar tract after a previous laparoscopic resection of endometrioma was by Healy et al.⁹

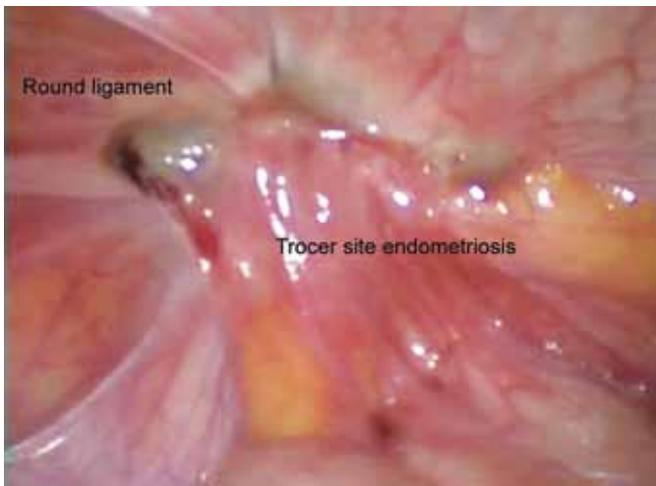


Fig. 1: Initial view of trocar scar endometriosis showing its position in relation to round ligament

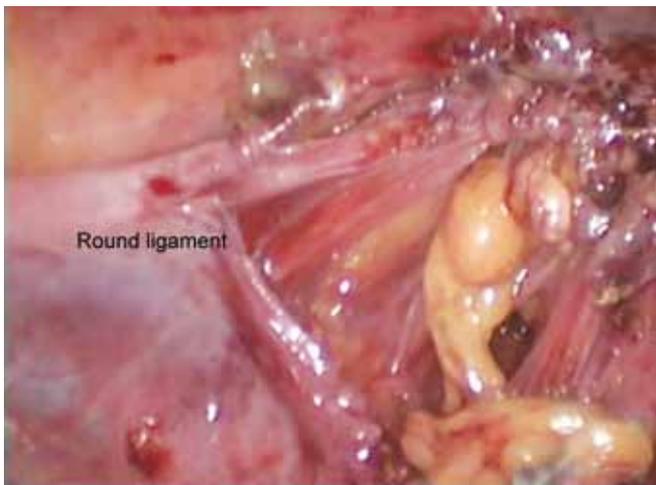


Fig. 2: Partially dissected lesion

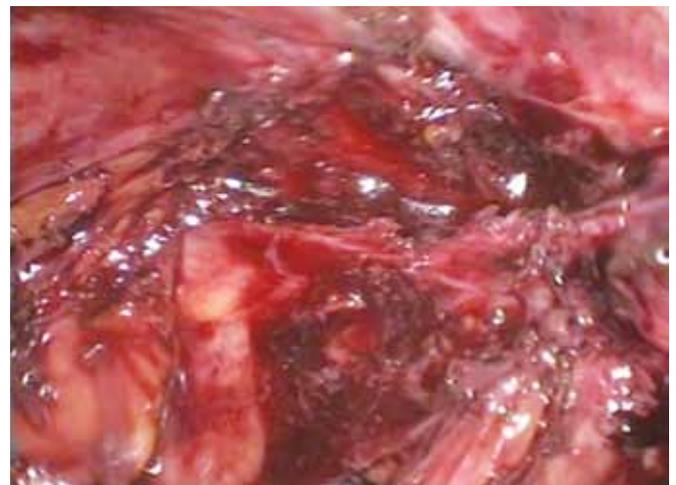


Fig. 3: Abdominal wall dissected intraperitoneally lying bereft of endometriotic tissue

The precise etiopathogenesis of endometriosis remains controversial, and many theories have been proposed, including cellular immunity, coelomic metaplasia, implantation or retrograde menstruation, vascular and lymphatic metastasis, dissemination, and direct transplantation.^{1,10} The etiopathogenetic mechanism by which endometriosis develops at a surgical wound site is evidently linked to endometrial tissue dissemination during the course of gynecological surgery. It has also been suggested that localized tissue ischemia renders that tissue conducive to implantation.^{3,11} Also, the practice of insufflating CO₂ into the peritoneal cavity causes cell aerosolization and may promote tumor cell shedding (aerosolization theory).³

Diagnosis of endometriosis arising from an abdominal wall scar, such as a trocar site, can be detected using computed tomography (CT), ultrasonography (USG), ultrasound (US)-guided fine-needle aspiration (FNA) and magnetic resonance imaging (MRI).^{12,13} On USG, the masses appear as solid, hypoechoic lesions in the abdominal wall that contain internal vascularity on power Doppler examination.¹² The CT and MRI characteristics of abdominal wall endometriosis are nonspecific, with both showing a solid enhancing mass in the abdominal wall. Although useful, CT, USG, and MRI cannot provide a definitive preoperative diagnosis. In our case, MRI showed a peritoneal thickening which in some circumstances can actually be due to inflammatory changes, hemangiomas, foreign body reaction, mesothelial hyperplasia, and hemosiderin deposits rather than endometriosis.¹³ However, laparoscopy remains the mainstay for both diagnosis as well as management of endometriosis. Though final conclusion is based on histopathology.

The differential diagnosis of surgical scar endometriosis is broad and often confused with other pathologic conditions, such as a suture granuloma, abscess, inguinal or incisional hernia, soft-tissue sarcoma, desmoid tumor, lipoma, metastatic tumor and sebaceous cyst. Therefore, the pathologic diagnosis of endometriosis should be confirmed.²

Historically, two major approaches exist for management of endometriosis: medical and surgical. Medical treatments are focused on hormonal manipulation of the menstrual cycle. Although hormonal modulation may be useful in some settings like preoperative preparation, it rarely yields satisfactory long-term results. This may be because of fibrotic changes and scar tissue, resulting in pelvic pain that is refractory to medical therapy.¹⁴ Currently, laparotomic wide local excision of endometriotic lesions appears to be the most effective treatment. But, a prospective, randomized controlled trial evaluating laparotomy versus laparoscopy for the treatment of endometriomas revealed that laparoscopy is associated with lower analgesic requirement, earlier discharge and

shorter postoperative recovery time. Laparoscopy also offers improved visualization of the abdomen and pelvis, with the ability to magnify and approach structures from angles not accessible by laparotomy, allowing for a more thorough treatment of extensive disease, such as scar endometriosis.¹⁵ Safe laparoscopic excision of an endometriotic lesion requires acute awareness of surrounding structures.

CONCLUSION

Abdominal wall endometrioma is more common than generally assumed in patients visiting the hospital. In patients with chronic pelvic pain near surgical scars associated with cyclic pattern, a thorough history and physical examination are sufficient to establish the presence of endometrioma. Laparoscopic wide local excision is the treatment modality. Laparoscopy affords easy, effective and definitive method for diagnosis and complete resection of endometriosis even in case of scar endometriosis and also defines the borders of dissection very clearly due to enhanced vision.

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