Wound endometriosis; case report and literature review

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Abstract

Scar endometriosis is a rare condition. We report a case of scar endometriosis occurring at the site of a four years old cesarean section scar. She complained of painful sensation during menstruation for 2 years that occurred at the site of her cesarean section surgical scar. On examination, there was a firm nodule measuring 3 × 2 cm in size at the right side of the scar. In view of the possibility of scar endometriosis, the mass was completely excised. Pathologic findings were compatible with scar endometriosis. Postoperatively, danazol was prescribed to prevent recurrence.

A surgical scar becoming painful and swollen during menstruation is the classic symptom of scar endometriosis. Causes include iatrogenic transplantation of endometrium to the surgical wound. Surgical excision is the main treatment. Postoperative GnRH-agonist or danazol may be prescribed to patients with scar endometriosis. It is recommended that during obstetrical and gynecological operations caution should be practiced to prevent such a complication.

Introduction

Endometriosis is defined as the presence of endometrial tissue outside the uterus and is common in fertile woman [1-3]. Endometriosis has different clinical manifestations, and there is debate on its diagnostic and therapeutic aspects. Pelvis is the most frequent location of the endometriosis. Endometriosis has been reported on the peritoneal and serosal surfaces of the intraabdominal organs in pelvis such as ovaries, fallopian tubes, peritoneum, and retro-vaginal septum [1, 4, 5]. In addition, extrapelvic endometriosis has been reported in any region of the body including bowel, bladder, lung, kidney, extremities, perineum, and umbilicus [5, 6]. Approximately 1-5% of all cases of endometriosis are located in the intestinal tract and intestinal tract is the most common site of the extra-pelvic location of the endometriosis [2, 7].

Extrapelvic endometriosis is a relatively rare phenomenon [2, 6, 7]. The majority of extrapelvic endometriosis involving scar tissue occurs following obstetric or gynecologic procedures, such as hysterectomy, episiotomy, cesarean section (CS), amniocentesis (rarely) and laparoscopic procedures [1-3]. Abdominal wall endometriosis may be more common than reflected in the literature and has a distinct presentation and treatment [3, 8]. Endometriosis of the skin and soft tissues makes up 0.2-3.5% of cases of extra pelvic endometriosis, with majority of such cases occurring in surgical scars following operations on the uterus [9, 10]. The diagnosis is often difficult as patients are usually referred with such diagnoses as granuloma, incisional hema, and keloid [4, 9].

Case report

26 years old female patient with history of cesarean section four years ago was presented to the outpatient clinic complaining of a painful swelling on the cesarean section scar. Two years ago she noticed CS scar swells at its right corner at the time of her menses and becomes painful. She also noticed brown discoloration of the swelling and parts of the CS scar at the time of her menstruation period. There was no history or previous symptom suggesting pelvic endometriosis. A solid hypoechoic irregular lesion in diameter of 3 cm X 2 cm was detected by ultrasonography imaging (Figure 1). This lesion showed some flow on color Doppler ultrasound (Figure 1). MRI was done and showed thick septated uterus, endometriosis of the right edge of the scar and the muscles under the scar, and multiple small endometrial implants on the anterior surface of the uterus and the posterior surface of the right rectus muscle (Figure 2, 3). Skin and superficial muscular lesions were totally excised. Added to that, patient was kept on Danazol for six months. Enlarged endometrial glands in fibrotic stroma were detected histomorphologically, which were compatible with endometriosis. There was no recurrence in eighteen months of follow-up period after the surgery.

Discussion
Despite extensive research, the natural history of endometriosis is still poorly understood, and its biology remains enigmatic ranging from a stable state to an actively progressive disease [6, 7]. However, wound endometriosis is still an extremely rare phenomenon, although handful of cases of scar endometriosis are reported in the literature [2, 3, 6]. The estimated incidence varies from 0.2 - 3.5 %. Scar endometriosis occurs most commonly after uterine surgery [1, 7].

Abdominal wall endometriosis should always be considered when a mass appears in or near a CS scar or other gynecologic operative procedure sites [4, 10]. The time from CS to the onset of symptoms varies considerably and ranges from months to 17.5 years, with an average of 30 months [8]. Esquivel-Estrada et al described a diagnostic triad consisting of periodic waxing and waning pain accompanying the patient’s menstrual cycle, history of CS (or other gynecologic surgery), and tumor inside or near the surgical scar [1]. However, Rao et al and Blanco et al reported that cyclical pain, as in abdominal wall endometriosis, was characteristic but uncommon in their series [6, 8]. From a literature review, it appears that the diagnosis of abdominal wall endometriosis may become difficult if cyclical pain is not present [1-3, 6, 8].

The pathogenesis of abdominal wall endometriosis is best explained by a combination of theories. The most practical and popular theory is that of direct implantation; during the surgical procedure, endometrial tissue is seeded into the wound. From this point, the tissue either proliferates under the same hormone influences as the endometrium in the uterus or induces metaplasia of the surrounding tissue to form an endometrioma [2, 7]. Alternatively, endometrial cells may reach a CS scar via lymphatic or hematogenous routes and subsequently grow into an endometrioma [5, 7].

Pre-operative diagnosis of scar endometriosis is feasible with fine-needle aspiration cytology (FNAC) as it provides accurate diagnosis [5]. Imaging studies such as ultrasound scan (US) including power Doppler examination, CT scan or MRI are equally useful and may be helpful in identifying the exact anatomical location of the lesion and in excluding other surgical conditions [4, 7, 10]. Sonography shows the lesions as hypoechoic, vascular and solid with some cystic changes [9, 10].

In general, the treatment of choice for abdominal wall scar endometriosis or CS scar endometrioma is surgical excision, even for recurrent cases. Wide excision with at least a 1 cm margin and/or patch grafting for fascia defect have been emphasized. Medical therapies used in the treatment of endometriosis include nonsteroidal anti-inflammatory agents, oral contraceptives, and analogs of gonadotropin releasing hormone (GnRH). All medical treatments are equally effective, with 80% to 85% of patients having symptomatic improvement. The major differences are their side effects. A combination of surgical excision and postoperative adjuvant therapy, with either GnRH-agonist or danazol, is recommended [1-3, 10].

Scal endometriosis, as well as endometriosis at other sites, can undergo malignant change. This malignant transformation occurs rarely [6-8]. Clear cell carcinoma is the most common histological subtype, followed by endometrioid carcinoma. The outcome, after a short follow-up, is rapidly fatal with a survival rate of only 57% [7].

During this literature review we noticed that recommendations for abdominal wall endometriosis prevention are rarely mentioned, so, these were summarized here [2, 3]. Many obstetricians are trained to clean the endometrial cavity with a moist or dry sponge after placental removal just before uterine closure during a CS. This procedure may deliver an increased inoculum of endometrial tissue to the abdominal wound if the used sponge is not discarded immediately after cleaning the uterine cavity [2, 6]. The suture material used for suturing the uterus should not be reused during the closure of the abdominal wound. The abdominal wall wound should be cleaned thoroughly and irrigated vigorously with saline solution before closure [2, 9].

Conclusion

Abdominal wall endometriosis may be caused by iatrogenic inoculation of endometrium into the surgical wound. It is currently regarded as a rare disease entity. However, in the light of the rising CS rate, it may become more common. So, it is strongly recommended that during obstetrical and gynecological operations caution should be practiced.

References

1. Esquivel-Estrada, V., J. Briones-Garduno, and R.


Illustrations

Illustration 1

Figure 1: US and Doppler

Illustration 2

Figure 2: MRI-1
Illustration 3

Figure 3: MRI-2