

A case series of scar endometriosis after cesarean section

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ABSTRACT

Endometriosis is referred to the presence of functioning, ectopic endometrial tissue outside the pelvic cavity. Their occurrences after abdominal or pelvic surgeries especially cesarean section, at the site of scar incision, are documented. The patient experiences cyclical pain at the incision site related to the menstrual cycle. Imaging can be used to detect the lesion and medical management can be provided. However, in severe cases, total excision is recommended to avoid chances of recurrence. Here, we present a case series of two cases of scar endometriosis after cesarean section, and both presented with cyclical pain in the abdomen. Medical management was provided for both cases.

Key words: Cesarean section, Cyclical pain, Hysterotomy, Scar

Endometriosis is a gynecological disorder, in which the functional and morphological endometrial glands and stroma are located outside the uterus. It is primarily seen in reproductive females and in 15–44% of women who undergo laparotomy or laparoscopy [1]. It is benign in nature but has the capacity to invade and spread locally into the surrounding structures. It chiefly occurs within the pelvic cavity but rarely may occur at extra pelvic sites such as lungs, kidneys, bladder, omentum, lymph nodes, or abdominal wall. The scar endometriosis is one such rare occurrence of extra-pelvic manifestation. This occurs at the site of old surgical scars from obstetrical and gynecological surgeries. The rarity of the disease and variability of the symptoms may cause misdiagnosis and delay in treatment.

The below cases highlight the clinical presentation with investigations and medical management of scar endometriosis in 34-year-old and 35-year-old females.

CASE SERIES

Case 1

A 34-year-old female complained of intermittent lower abdomen and per vaginal pain. She also complained of premenstrual symptoms (PMS) of lower abdomen pain and dysmenorrhea lasting (10 days) after menses along with dyspareunia (++) and increased frequency of micturition. She was suffering from multiple episodes of recurrent urinary tract infection, requiring frequent hospital

admissions and management with IV and oral antibiotics. Personal history revealed that she had undergone uncomplicated lower segment cesarean section (LSCS) 10 years back. She had a past surgical history of cholecystectomy 10 years back. Two years back, she was detected with 3 scar endometriosis deposits measuring $3.1 \times 3.5 \times 2.0$, 2.9×1.9 , and 1.5×0.7 cms in infraumbilical subcutaneous fat and left rectus abdominis muscle, for which she was advised Danazol and antibiotic (Piperacillin and Tazobactam).

On examination, there was tenderness in the left iliac fossa and on per vaginal examination, the uterus was bulky with reduced mobility. Endovaginal ultrasound showed three hypoechoic lesions measuring $8 \times 1.6 \times 4.6$, 2.4×1.0 , and 3.0×1.6 cm suggestive of endometriotic scar deposits (Fig. 1). Elastography showed minimal adenomyotic changes in the region of the lower segment scar and the fundic myometrium with few cystic areas indicating early adenomyotic changes.

After counseling with the patient and her husband, medical management followed by laparoscopy was suggested. Leuprolide injection (3.6 mg) was given intramuscular single shot, dienogest (2 mg) for 3 months and diosmin (500 mg) were prescribed. She followed up after 2 weeks and was symptomatically better. She was advised to continue dienogest for a year with follow-up every 3 months.

Case 2

A 35-year-old female presented with complaints of pain in the lower abdomen. The site of pain (endometriosis) would show congestion just before menses but during menses, there were no major complaints of dysmenorrhea or heavy bleeding. Her

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personal history revealed that she had undergone uncomplicated LSCS twice, 7 and 4 years ago.

Examination of the abdomen showed the presence of an LSCS scar with a nodule felt on the left side of the scar with severe tenderness. Per vaginal examination findings were normal size uterus with the left forniceal tenderness and reduced motility. Ultrasound showed a focal lesion in the left iliac fossa at the level of deeper incision suggestive of scar endometriosis. The findings of magnetic resonance imaging (MRI) were suggestive of a small nodular mass in the subcutaneous plane along the lateral margin of the left rectus abdominus muscle (Fig. 2). The patient was prescribed dienogest (2 mg for 1 year) and was advised for regular follow-ups at 3-, 6-, and 12-month intervals. Repeat imaging showed a significant reduction in the size of the scar and the patient was symptomatically better.

DISCUSSION

Scar endometriosis is a rare condition, where endometrial implants are deposited within the abdominal or pelvic cavity. The most common scar endometriosis is seen post-cesarean section or after hysterectomy, while cases of its occurrence after laparoscopy, laparotomy, and cystectomy have been reported [2-4]. However, on the contrary, cases of development of endometriosis despite any surgical history are also reported [5]. Hence, the exact cause and the pathogenesis of the development of scar endometriosis are unclear. The endometrial tissue can be seen in the subcutaneous tissue, abdominal, or pelvic wall near to scars from surgical procedure, hence termed scar endometriosis.

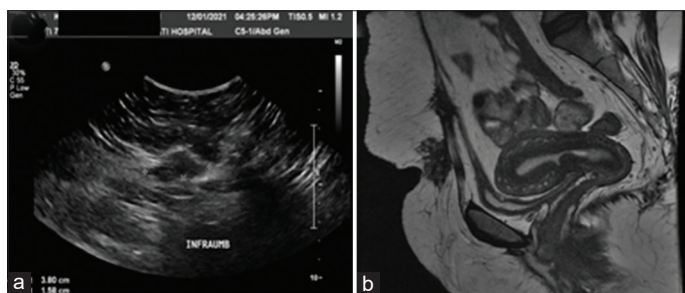


Figure 1: (a) Endovaginal ultrasound showing hypoechoic lesions suggestive of endometriotic scar deposits. (b) Sagittal view of MRI showing area of heterogeneously increased signal intensity (case 1)

Cesarean section scars are the most frequent site for endometriosis of the anterior abdomen or pelvic wall with a prevalence of 57%, while hysterectomy scar was 11% [3].

Certain risk factors for the development of scar endometriosis are early hysterotomy or performing a cesarean section before the onset of labor, that is, during mid-trimester abortion [6]. Other risk factors include increased flow during menses, obesity, and consumption of alcohol. The pathogenesis of the development of scar endometriosis after obstetric surgeries is proposed that large quantities of endometrial cells are exposed during surgery which might get inoculated directly at the site of surgery. Due to the female hormones, these cells might proliferate in the optimal conditions which occur during surgery as there is relative blood loss favoring its growth [7] and even the female hormones have an influence on these cells. The incidence is higher in early hysterotomy as the decidual layer has more pluripotential function facilitating higher cellular replication [6].

Clinically, the patient presents with cyclic pain, tenderness, and swelling at the site. The clinical symptoms mainly manifest during the menstrual cycle. The onset of clinical symptoms and the time of surgery can range from 6 months to 20 years [8]. In the above cases, the females developed complaints of scar endometriosis after 10 years of surgery. On physical examination, nodules may be palpated if the scar endometriosis is in the superficial layers. Imaging modalities such as ultrasound, computed tomography, and MRI can be used for diagnosis as well as for planning surgical resection techniques. Fine-needle aspiration cytology (FNAC) study also helps in identifying the histological features to confirm the diagnosis [9]. Since the majority of cases of scar endometriosis are reported in patients with a history of cesarean surgery; hence, females presenting with scar-related pain or nodule should be suspected of this rare condition. However, few cases of scar endometriosis have been documented after abdominal surgeries such as appendectomy postulating the hematogenous or lymphatic spread [10].

Management of scar endometriosis is chiefly excision of the mass. Medical management with progestogens, oral contraceptive pills, and danazol provide temporary relief, but complaints do reoccur after cessation of treatment [11]. To minimize the risk of

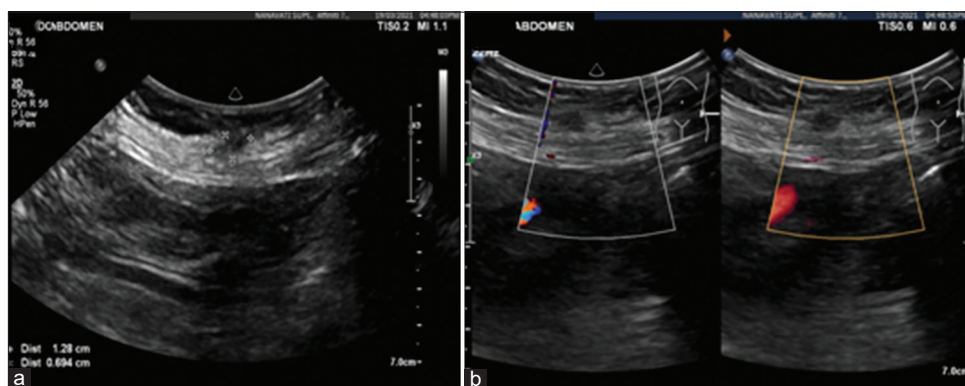


Figure 2: (a) USG showing focal lesion in the left iliac fossa at the level of deeper incision. (b) MRI imaging showing small nodular mass in subcutaneous plane in the left rectus abdominus muscle (case 2)

recurrence of the mass, excision of the mass is advised and only in cases of inadequate excision, the lesion might reoccur [12].

The above cases highlight the need for adequate precautions to minimize the risk of contamination with the endometrial cells. Few authors have suggested careful lavage with saline prior to closing the abdominal wall, careful closure of the parietal and the visceral layer of the peritoneum, and using new instruments and needles before suturing the abdominal layers [13-15].

CONCLUSION

Scar endometriosis is a rare condition and cesarean section is a major risk factor for its occurrence. Utmost care should be taken to minimize the chances of inoculation during surgical procedures. Clinicians must be aware of the possibilities of scar endometriosis with the clinical presentation and physical examination findings. Imaging plays a key role in detecting and planning strategies for surgery.

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