

## Case Report

# Scar endometriosis — a diagnostic dilemma

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Scar endometriosis is a rare entity reported in 0.03-1.08% of women following obstetric or gynaecologic surgeries. It is often misdiagnosed as hernia, abscess, suture granuloma or lipoma with final diagnosis being made only after tissue excision and histopathology report. This is probably due to the long latent period between the surgery and the onset of symptoms. This delay in diagnosis causes delay in treatment causing unnecessary suffering to the patient.

A 34 years old lady Para 2 Live 2 presented with painful nodule at the scar site. She had undergone two emergency caesarean sections with laparoscopic tubal ligation done 5 years back. Her history signs and symptoms were suggestive of scar endometriosis as one of the differential diagnosis. Fine needle aspiration cytology (FNAC) report showed possibility of scar endometriosis but was inconclusive. Ultrasonography (USG) and magnetic resonance imaging (MRI) showed a second nodule at the paraumbilical region for which the patient was asymptomatic. Both nodules were adequately excised with 1 cm free margins. Final histopathology report confirmed scar endometriosis.

A painful lump at the scar site especially after obstetrics surgery should raise the suspicion of scar endometriosis. A proper preoperative workup with imaging modalities like USG and MRI is essential to assess the extent of the disease, and to plan a proper surgical approach. Once diagnosed, surgical treatment with wide excision is the treatment of choice. [J Indian Med Assoc 2019; 117(9): 29-30 & 32]

**Key words :** Caesarean section; endometriosis; MRI; scar; wide excision.

Endometriosis defined as presence of functional endometrial tissue at sites other than uterine cavity. Its estimated prevalence in the general population is up to 10%. For women with subfertility the prevalence rate ranges from 25% to 40%<sup>1</sup>. However, the prevalence is largely underestimated as visual inspection of the disease is required to confirm the diagnosis. The most common site is the pelvis, however extra pelvic endometriosis is a rare condition and can involve various organs right from the nervous system to the subcutaneous tissue. Incisional scar endometriosis is a rare entity reported in 0.03-1.08% of women following obstetric or gynaecologic surgeries<sup>2</sup>. It is often misdiagnosed as hernia, abscess, suture granuloma or lipoma with final diagnosis being made only after tissue excision and histopathology report. This delay in diagnosis in-turn causes delay in treatment resulting in unnecessary suffering to the patient.

We present a case of post caesarean scar endometriosis with review of its literature, so as to create awareness of the signs and symptoms and management of this rare condition among the medical fraternity.

### CASE REPORT

A 34 years old lady Para 2 Living 2 presented in our outpatient department (OPD) with chief complaints of a painful nodule on the left angle of the caesarean scar. She complained of incapacitating pain in the swelling which starts around 3 to 4 days before her expected date of menses and subsides once her menstruation is

completed. Patient had undergone two emergency caesarean sections— one 12 years back and another 7 years back. She had also undergone laparoscopic tubal ligation before 5 years. She noticed a small swelling at the left angle of the caesarean section scar 5 years back which was painful during menstruation. This swelling had gradually increase in size till date. However there was no history of any discoloration of the skin over the swelling. The pain in the swelling has increased over the last one year, for which she had to seek medical advice.

On abdominal examination, a firm nodule 2 x 2 cm was felt at the left angle of the caesarean section scar. The nodule was tender with restricted mobility. The skin overlying the nodule was free. There was no puckering or discoloration of the skin.

Her baseline investigations were done. Sonography showed a 1.9 x 1.2 cm diffuse nodule in the subcutaneous area in the left end of the caesarean scar. Another 1.5 x 0.9 cm nodule was present in the left para umbilical region but it was asymptomatic. Fine needle aspiration cytology (FNAC) of the nodule at the caesarean section scar showed possibility of endometriosis of abdominal wall. Magnetic resonance imaging (MRI) was done to assess the extent of the lesion, which showed a well-defined nodular soft tissue lesion in the left lower abdominal wall in the subcutaneous plane at the infraumbilical location abutting left rectus abdominis muscle with poorly defined fat planes. Similar smaller nodular lesion was seen in the paraumbilical region. There was no intraperitoneal extension of either of the lesions.

Patient was planned for wide local excision of both lesions. Surface marking was done for demarcating the extend of the lesion on Ultrasonography (USG). Intraoperatively, the overlying skin was incised. Fat was separated to reach the nodule. Bluish discoloration of the nodule was seen. Around 1 cm free margins were assured and the nodule excised along with the rectus sheath (Fig 1). There was no extension to the muscle. The second nodule

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was approached through the same incision. Bluish discoloration was seen below the rectus sheath (Fig 2). The rectus sheath was incised. The nodule was seen abutting the rectus abdominis muscle. The muscle was excised with sufficient free margins. Belly of the cut muscle was opposed followed by the closure of the rectus sheath at both sites. Skin closure was done with vertical mattress sutures. Corrugated drain was kept, which was removed on day 5.

Specimen was sent for histopathological examination which showed presence of endometrial glands and fibrosis (Fig 3). Post operatively patient was given GnRH agonist- injection Leupragon 3.75 mg IM monthly for 3 months. Patient is on regular follow up with complete relief of pain at the scar site.

#### DISCUSSION

Scar endometriosis is a rare entity and most commonly encountered after surgery involving the uterus and the fallopian tube. The pathogenesis of scar endometriosis is complex and is



Fig 1 — Nodule excised at the left angle of the caesarean section scar, bluish discoloration of endometriotic lesion seen

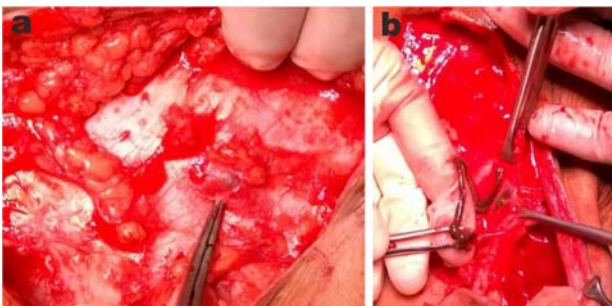


Fig 2 — (a) Nodule in paraumbilical region below rectus sheath  
(b) chocolate coloured material on incising the nodule

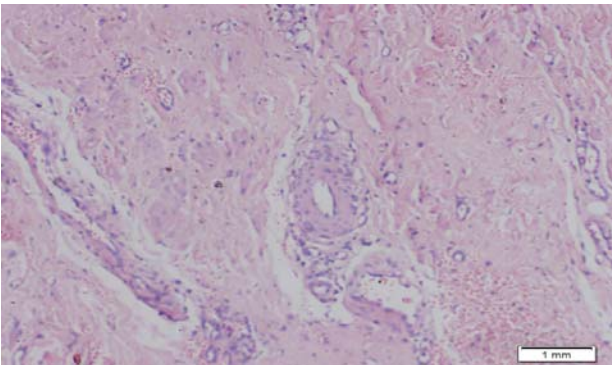


Fig 3 — Endometrial glands seen in the muscle tissue of the rectus abdominis muscle

believed to be the result of a mechanical iatrogenic implantation, through the direct inoculation of the abdominal fascia and/or subcutaneous tissue with endometrial cells during the surgical intervention, which, when stimulated by estrogen, become active and expand<sup>3</sup>. Incidence of scar endometriosis following hysterotomy is 1.08-2% whereas after cesarean section the incidence is 0.03-0.4%. The reason for higher incidence after hysterotomy has been postulated as the early decidua has more pluripotential capabilities and can result in cellular replication producing endometrioma<sup>4</sup>. There are reports of scar endometriosis along episiotomy site, in patients with tubal ligation, laparoscopic trocar tract, amniocentesis needle tract, and even after appendectomy<sup>4</sup>.

Surgical scar endometriosis is a rare and often misdiagnosed entity. This is probably due to the long latent period between the surgery and the onset of symptoms. In a series of 12 cases of scar endometriosis by Mustafa *et al* time interval between caesarean section and the onset of symptoms ranged from 16 months to 9 years<sup>5</sup>. In one case report by Cihangir *et al* the interval between the previous caesarean sections and symptoms was 23 years<sup>6</sup>. In our patient the interval between the caesarean section and the onset of symptoms was 2 years. The patient usually presents with mass at the surgical site, which is painful during menstruation. Pain in the endometriosis is classically described as cyclic pain but constant and non-cyclic pattern also have been reported<sup>7</sup>. Our patient typically had a nodule at the surgical site which was painful during menses and pain subsided after menses. Cyclical changes in the intensity of pain and size of the endometrial implants during menstruation are usually characteristic of classical endometriosis however, these symptoms may not be necessarily present in all cases<sup>8</sup>. Other presenting symptoms could be discoloration of the overlying skin and brownish discharge from the scar site. The scar is usually hypertrophic and tender on palpation.

Imaging plays an important role prior to surgery. In a retrospective study of 151 patients with abdominal wall endometriosis by Zhang and Liu, it was concluded that the preoperative USG detection rate was 97.4% (147/151 cases). However the lesion size detected by preoperative ultrasonography was significantly smaller than that measured intraoperatively by palpation and the results were statistically significant. The infiltration depth could be revealed only in 26.5% cases by preoperative USG<sup>9</sup>. The computerized tomography (CT) or magnetic resonance imaging (MRI) can further help us evaluate the extent of the lesion. However, MRI can be more helpful when the lesion is small because of its high spatial resolution, furthermore it perform better than CT scan in detecting the planes between muscles and abdominal subcutaneous tissue<sup>4</sup>. FNAC is reported to be accurate in diagnosing scar endometriosis however it is not always conclusive. It may be a useful guide in cases of large masses, doubtful diagnosis and atypical presentation. In our case FNAC showed possibility of scar endometriosis, but definitive diagnosis was not given.

Although rare there are cases reported in the literature showing malignant transformation to clear cell carcinoma in patients of scar endometriosis<sup>10</sup>. Hence in patients with recurrence, malignancy should be ruled out. An optimal surgery should be done once the diagnosis of scar endometriosis is made. Wide excision with at least 1 cm margin is considered as the treatment of choice and fascial defect may need closure with synthetic mesh if the underlying sheath is found to be involved<sup>7</sup>. Medical treatment with the use of progestogens, oral contraceptive pills and danazol is not effective

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and gives only partial relief in symptoms. Gonadotrophin agonist has shown prompt improvement in symptoms but no change in the lesion size was noted. Usually recurrence is seen after cessation of the treatment and hence surgical treatment is the treatment of choice<sup>4,7</sup>.

Simple preventive measures at the end of the caesarean section, like thorough cleaning of the abdominal wound and vigorous irrigation by saline solution before closure can decrease the amount of endometrial inoculation. The suture material used for uterine closure should not be used for the closure of the abdominal wound<sup>11</sup>.

#### CONCLUSION

A painful lump at the scar site especially after obstetrics surgery should raise the suspicion of scar endometriosis. A proper preoperative workup with imaging modalities like USG and MRI are essential to assess the extent of the disease, and to plan a proper surgical approach. The time interval between the index surgery and the appearance of symptoms can vary from months to years. Hence scar endometriosis should always be one of the differential diagnosis for painful nodule at the scar site. Once diagnosed, surgical treatment with wide excision is the treatment of choice.

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