

## CASE REPORT

# Scar endometriosis in a patient with previous caesarean scar - a case report

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## ABSTRACT

Endometriosis is defined as the presence of endometrial like stroma and glands outside the uterine endometrial area. We report a case of a 29-year-old woman presenting with scar endometriosis 6 years after her last caesarean section. A wide surgical excision of the swelling was done. The histopathology report showed haemorrhagic material in lumen and surrounded by endometrial stromal tissue suggestive of scar endometriosis.

**Keywords:** Scar, endometriosis, caesarean section, surgical excision.

Surgical scar endometriosis is a form of extra pelvic endometriosis (defined as the presence of endometrial glands and stroma outside the pelvis) <sup>1</sup>. It's a rare and often misdiagnosed entity usually confused with abscess, lipoma, hematoma, sebaceous cyst, stitch granuloma, incisional hernia or tumours resulting in delay in diagnosis <sup>2</sup>. Although, it is most frequently found in the pelvis (ovaries, posterior cul-de-sac, uterine ligaments, pelvic peritoneum, bowel, and rectovaginal septum), reports citing extrapelvic endometrial locations range from the lungs to the extremities <sup>3</sup>. The main cause of extrapelvic implants is obstetric and gynecological procedures performed during gestation, especially early hysterotomy and caesarean section. Ectopic pregnancies, salpingostomy puerperal sterilization, laparoscopy, amniocentesis, appendectomy, episiotomy, vaginal hysterectomies,

and hernia repair are the other surgical factors for scar endometriosis<sup>4</sup>. The reported incidence after midtrimester abortion is about 1% and after caesarean sections incidence ranges from 0.03% to 0.45% of all cases of endometriosis <sup>5, 6</sup>. We report a case of endometriosis occurring at the site of a caesarean section.

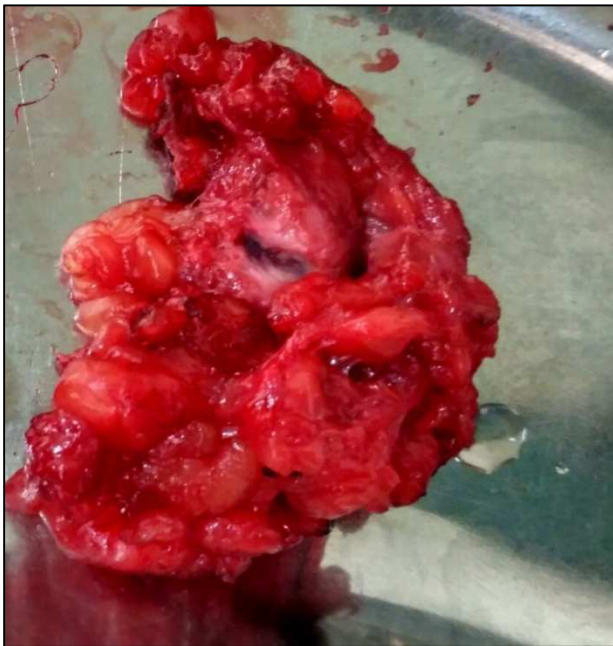
### **Case report**

A 29-year-old woman (P<sub>2</sub>L<sub>2</sub>) presented with a pain and swelling in the previous LSCS abdominal scar since 6 months. She was an otherwise healthy woman with no significant medical history. Her surgical history included two uncomplicated caesarean sections, the last one being six years back. The pain was a constant dull aching without any radiation and increased during her menstrual cycles. The patient was on oral contraceptive pills and analgesics for quite

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some time for symptomatic pain relief; however the discomfort of pain still persisted. Physical examination revealed a well healed sub-umbilical vertical midline scar with a 2x2 cm tender, non-mobile nodular swelling situated just below the umbilicus in the superior aspect of the scar. The site also showed mild erythema. Exquisite point tenderness to palpation over the nodular area was noted.



**Figure 1: Excised scar endometriotic tissue**

A clinical diagnosis of scar endometriosis was made and followed up with ultrasound which showed a hypoechoic mass 19x12.2x12.8mm size in the subcutaneous location in relation to the uterine scar suggestive of suspected surgical scar endometriosis and suture granuloma. There was no uterine or ovarian pathology on ultrasound. After a preoperative evaluation a wide surgical excision of the swelling was done (figure 1). Postoperative period was uneventful.

The histopathology report showed fibrocollagenous tissue showing collagenized fibrosis with interspersed glands lined by columnar epithelium, containing haemorrhagic material in lumen and surrounded by

endometrial stromal tissue suggestive of scar endometriosis.

### **Discussion**

Surgical scar endometriosis is a rare and often misdiagnosed entity<sup>5</sup>. It is a form of extrapelvic endometriosis defined as the presence of endometrial glands and stroma outside the pelvis, eg: genitourinary organs, abdominal organs, lungs and pleura. The condition is usually associated with obstetric procedures although it may occur after other procedures and as denovo<sup>2</sup>.

Scar endometriomas are believed to be the result of direct implantation of the endometrial tissue in scars during obstetric and gynecological procedures performed during gestation, especially early hysterotomy and caesarean section. Ectopic pregnancies, salpingostomy puerperal sterilization, laparoscopy, amniocentesis, appendectomy, episiotomy, vaginal hysterectomies, and hernia repair are the other surgical factors for scar endometriosis<sup>4</sup>. Under proper hormonal stimulus, these cells may proliferate (cellular transport theory) to produce endometriomas. This theory is convincingly demonstrated by experiments in which normal menstrual effluent transplanted to the abdominal wall resulted in subcutaneous endometriosis. In clinical practice, its occurrence has been well documented in incisions of any type where there has been possible contact with endometrial tissue, including episiotomy, hysterotomy, ectopic pregnancy, laparoscopy, tubal ligation, and caesarean section<sup>7</sup>. The other proposed theories include metaplasia of the neighbourhood tissue, which leads to scar endometriosis (coelomic metaplasia theory) and by lymphatic or vascular pathways, the endometrial tissue may reach the surgical scar and then generate to scar endometriosis. One study has reported that scar endometriosis is the most common site after caesarean section followed by episiotomy, hysterotomy, hysterectomy and laparotomy scar<sup>1</sup>.

The incidence has been estimated to be only 0.03% to 0.15% of all cases of endometriosis<sup>6</sup>. Wang et al

found that the highest incidence of scar endometriosis was in patients who had undergone obstetric surgery, especially mid-trimester termination of pregnancy<sup>8</sup>. The incidence of scar endometriosis following hysterotomy is 1.08-2% whereas after cesarean section the incidence is 0.03-0.4%<sup>3</sup>. The reason for higher incidence after hysterotomy has been given as the early decidua has more pluripotential capabilities. Association between the incisional endometriosis and concurrent occurrence of pelvic endometriosis is rare.

Scar endometriosis is usually a diagnosis of clinical suspicion. The patient may present with pain and swelling at the scar site. The cyclical changes in the intensity of pain and size of the endometrial implants during menstruation are usually characteristic of classical endometriosis. However, in the largest reported series to date, only 20% of the patients exhibited these symptoms<sup>9</sup>. Patients usually complain of tenderness to palpation and a raised, unsightly hypertrophic scar which may be hyper-pigmented due to deposition of haemosiderin. Some patients may be asymptomatic. The time interval between the surgery and symptom presentation may vary, ranging from 3 months to 10 years as reported in different series<sup>2, 3</sup>. The non invasive diagnostic modalities like ultrasound with colour Doppler, CT scan and MRI can aid in the diagnosis, however they lack specificity<sup>10, 11</sup>.

USG features of scar endometriosis may include (i) a hypoechoic in homogeneous echo texture with internal scattered hyperechoic echoes, (ii) regular margins, often spiculated, infiltrating the adjacent tissue and (iii) a hyperechoic ring of variable width and continuity<sup>11</sup>. On colour doppler examination, a single avascular pedicle entering the mass at the periphery is one of the diagnostic feature<sup>11</sup>. Pre-operative MR imaging is the most sensitive imaging modality and valuable in defining the extent of disease, thus enhancing accurate and total excision<sup>12</sup>. CT scan, endometrioma appears as a circumscribed solid mass, enhanced by contrast and may sometimes show haemorrhage.

Histology is the hallmark of diagnosis. It is satisfied

if endometrial glands, stroma, and hemosiderin pigment are seen. Generally, diagnosis is easy with a microscopic examination of a standard hematoxylin and eosin-stained slide. Furthermore, the cytologist experience must be the important point to clarify diagnosis and to exclude malignancy.

Management includes both surgical excision and hormonal suppression.<sup>5</sup> Oral contraceptives, progestational, GNRH and androgenic agents have been tried. It is believed that hormonal suppression is only partially effective and usually recurrence occurs after cessation of the treatment with extreme side effects. Hence the treatment of choice is the surgical wide excision of the lesion with at least 1 cm margin and it may sometimes require mesh placement for closure of facial defects<sup>1, 3</sup>.

#### Conclusion

Scar endometriosis is a rare condition and should be suspected when a lady in the reproductive age presents with pain and swelling at scar site after obstetric surgery. USG and MRI are useful diagnostic tools. Wide excision is the treatment of choice as medical treatment may not produce lasting relief.

**Conflict of interest:** None. **Disclaimer:** Nil.

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