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Scar endometriosis-rare sequel of caesarean section: A case report

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Abstract
Scar endometriosis is the implantation of endometrial glands and stromal cells at the incision site following obstetrics and gynaecological surgery. Although incidence is very rare, women in the reproductive age with no history of endometriosis, presents with complaints of cyclical pain at the scar due to any previous surgeries is highly suspicious of scar endometriosis. Treatment of choice is excision. Diagnosis is by histopathological examination of the excised tissue. We report a case of scar endometriosis presenting 5 years after caesarean section and emphasised on diagnosis and treatment.

Keywords: scar endometriosis, caesarean section, painful scar, pfannenstiel incision

Introduction
Endometriosis is defined as the presence of endometrial glands and stroma outside the uterus. Endometriosis affects 10-15% of women of reproductive age group that is 18-45 years and 70% of women with chronic pelvic pain [1]. Although benign in structure, endometriosis has all the features of malignancy like local spread, invasiveness, and an outstanding ability to disseminatec [2]. The most common site is the ovary and less frequent sites include peritoneum, intestine, bladder, inguinal region, lungs, pleura, pancreas, central nervous system and vertebrae. Furthermore, endometriosis can be seen in the abdominal wall after surgery, in particular, in women with a history of caesarean section [3].
Scar endometriosis a rare disease and is difficult to diagnose, the symptoms are nonspecific typically involving abdominal wall pain at the incision site during the time of menstruation [8]. Endometriosis at a scar site can be found after caesarean section, hysterectomies, amniocentesis, laparoscopic trocar tracts, or perineal episiotomy. The most frequent localization of endometriosis in surgical scars is in the abdominal skin and subcutaneous tissue [4]. Furthermore, this disease is also related to surgery performed by general surgeons, such as appendectomy, groin and umbilical hernia corrections. However, most of the cases reported have occurred following obstetric procedures that exposed the endometrial tissue, especially in cases of caesarean section [5]. Endometrial cells are inoculated directly into the surgical area and can progress to endometriosis in optimal conditions. This causes various clinical symptoms due to proliferation of these cells under the influence of female hormones [2].

Case Report
A 34 year old female presented with complaints of pain and swelling over the left side of caesarean section scar since 6-7 months, which aggravates during menstruation. She has regular menstrual cycles, normal in flow and duration and no history of endometriosis in the past. Patient underwent Emergency caesarean section and bilateral tubal ligation 5 year ago in view of failed induction. On inspection, a transverse scar of 10cm seen, no obvious swelling noted. On deep palpation small irregular mass of size 1.5 cm felt near left angle of LSCS scar. On per vaginal examination uterus was anteverted and normal in size and fornices were free and nontender. Ultrasonography was done which showed a hypoechoic lesion in soft tissue at caesarean scar site (left side) which was 1.2 x0.7 cm above the left rectus abdominis muscle at level of caesarean scar mostly suggestive of scar endometriosis. Patient was posted for excision of scar endometriosis. Intraoperatively sharp dissection was done with a scalpel within the area of incision from previous caesarean section.

The cystic mass which was surrounded by fibrosis of 2cm was removed carefully with a wide margin of rectus sheath as shown in figure 1 and 2 followed by reconstruction of abdominal wall in layers. Definitive diagnosis was confirmed by histo pathological examination.

Fig 1: Intraoperative picture

Fig 2: Excised specimen

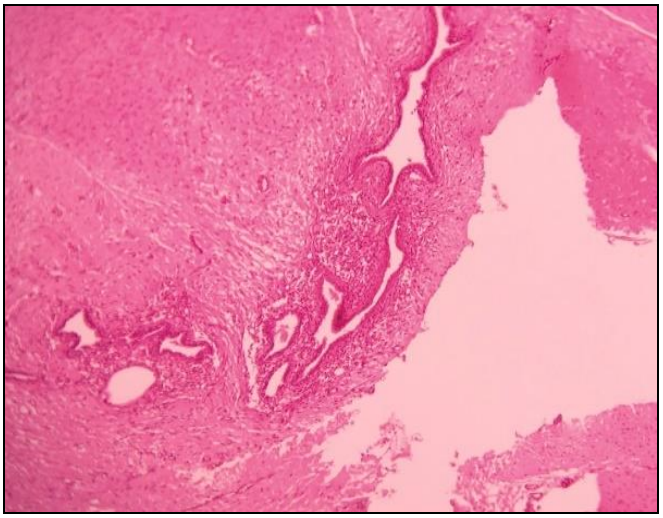

Fig 3: H&E sections showing fibrocollagenous tissue with occasional endometrial-type glands and surrounded by scant endometrial stroma S/O Scar endometriosis

Discussion

Abdominal wall endometriosis was first documented by Meyer in 1903 [4]. It is a rare complication of a caesarean section. Incidence is 0.03% -1.73% with an average rate of 0.5% [3]. To improve the detection rate of scar endometriosis more attention to medical history and physical examination is mandatory. Other abnormalities should be excluded, and differential diagnosis includes lipoma, haematoma, umbilical hernia, soft tissue sarcoma, abscess, carcinoma (primary), and metastasis. Removing decidual tissue from the wound before closing and cleansing with normal saline solution has been described as a preventive measure [3].

Currently, pregnancy is believed to provide immune tolerance to fetal antigens, and this inherent survival mechanism seems to be involved in the development of the endometrioma, consequently decreasing the cell immunity at locations where decidual cells are present. Thus, labor onset with cervical ripening and regular contractions would be a marker for the end of immune tolerance, because in the absence of this condition (elective caesarean section), labor seems to be a factor related to the disease. However, the ability of ectopic endometrial cells to resist cell apoptosis allows them to survive in the surgical scar [5]. The pathogenesis of endometriosis is complex and caesarean scar endometriosis is believed to be the result of a mechanical iatrogenic implantation, through the direct inoculation in the abdominal fascia and/or subcutaneous tissue with endometrial cells during the surgical intervention, which, stimulated by estrogen, become active and expand [6]. The Pfannenstiel incision is the most commonly reported type for the occurrence of caesarean scar endometriosis [7]. Early hysterotomy in pregnancy especially before 22nd week of gestation is the main risk factor. Additionally, increased menstrual flow and alcohol consumption are also concluded as risk factors, while high parity may be a protecting factor. The most evident risk factor for the presence of endometriosis in scar tissue is a previous history of obstetric surgical procedures [2]. Positive histology confirms the diagnosis of endometriosis; negative histology does not exclude it, whether histology should be obtained if peritoneal disease alone is controversial. Visual inspection is usually adequate but histological confirmation of at least one lesion is ideal. MRI remains the most useful imaging modality to exclude other pathology [1]. Management includes both surgical excision and hormonal suppression. Oral contraceptives, progestational and androgenic agents have been tried. It is believed that hormonal suppression is only partially effective and surgical excision of the scar is the definitive treatment [8].

Conclusion

Endometriosis is a debilitating disease that impacts the quality of life of adolescent and adult patients. Preventive rules in all gynaecological and obstetric surgeries is the most important way to eradicate this disease. We noticed that caesarean section is an apparent risk factor for the presence of endometriosis. To prevent iatrogenic transplantation, additional attention is needed during surgery that exposes endometrial tissue. Complete wide excision with clear margins is both diagnostic and therapeutic. Literature recommends that thorough cleaning, irrigation with saline and closure of abdominal wound will prevent scar endometriosis.

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