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Extra-pelvic scar site endometriosis: A gynaecologist's perspective

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Abstract
Extra –pelvic endometriosis is a rare condition, usually associated with the surgeries where uterus is incised or rarely at episiotomy site. Since we gynaecologists are somewhere responsible for the condition, we must be able to diagnose and treat it properly. The condition is often misdiagnosed and suture granuloma, incisional hernia, haematoma, perineal abscess, primary or metastatic cancer are kept in differentials. We here report two cases of scar endometriosis developed in the abdominal wall scar after caesarean section and one at perineal episiotomy site after vaginal delivery.

Keywords: scar endometriosis, caesarean section, vaginal delivery ,episiotomy, uterine incision

Introduction
Endometriosis is defined as functioning endometrial tissue outside the uterine cavity. Endometrial implants, however, have been reported in many unusual sites outside the pelvis including the abdominal wall and perineum. The latter may occur in those procedures where uterus is opened or incised [1–5]. Incidence of scar endometriosis following hysterotomy is 1.08-2% whereas after caesarean section the incidence is 0.03-0.4% [11]. Perineal scar endometriosis is a very rare entity occurring in about 0.03-0.15% [16].
Endometriosis of the abdominal wall /perineum may be difficult to diagnose; it is often mistaken-both clinically and with diagnostic imaging-for other abnormal conditions such as a metastatic disease, desmoid tumor, lipoma, sarcoma cysts, nodular and proliferative fasciitis, fat necrosis, haematoma, abscess, suture granuloma and incisional hernia [2–5]. This may be partly due to the fact that abdominal wall endometriosis is a comparatively unknown entity that has scarcely received attention.

Case Reports
Case 1
We report here a case of a 27 yrs old female patient who presented with a painful lump on the lateral aspect of a pfannensteil incision after a caesarean section done 4 years back. She reported that she was continuously having a pain in left lumbar region since $2^{1/2}$ years. One year back patient started feeling a nodular mass on the left lateral aspect of incision, which had gradually increased in size. She also stated that the nodule pain aggravates during menstruation. The patient had no history of other diseases and was otherwise healthy.
Physical examination revealed a 3×3cm hard, round, tender mass at the left lateral margin of the caesarean scar. The overlying skin was normal.
Ultrasound of the abdomen was performed and revealed a well defined hypoechoic nodule ~1.7×1.7×0.9 cm is seen in parietal wall in left para-median location approximate 3-4 cm from the mid-line closely abetting the caesarean scar [Fig.1]. On Doppler, there was no vascularity seen. The lesion is well defined to the abdominal wall and no proximity to uterus/intraperitoneal structures is seen ? stitch line granuloma ? scar endometriosis.

Fig 1: Ultrasound: 1.7x1.7x0.9 cm well defined hypoechoic nodule

The final diagnosis was made by sonographically guided FNAC. Smear showed mainly acute inflammatory exudates material consisting of plenty number of neutrophils, frequent macrophages lying in necrotic background. Frequent cell aggregates, monolayered sheath, strips and groups of epithelial cells are seen. Cells are mainly columnar to cuboidal and round in shape with uniform cell and nuclear size and maintained polarity. At few places, loss of polarity with enlarged atypical looking nuclei and prominent nucleoli are seen, suggesting endometriosis in nodule.

The patient was posted for a wide local excision of the abdominal wall lump [Fig. 2]. A lump of 3x3 cm which was firm in consistency, situated above external oblique aponeurosis was excised with clear margin. The postoperative period was uneventful. Histopathology showed fibroadipose tissues with interspersed glands and stroma of endometriosis which confirmed the diagnosis of endometriosis in abdominal wall scar [Fig.3].

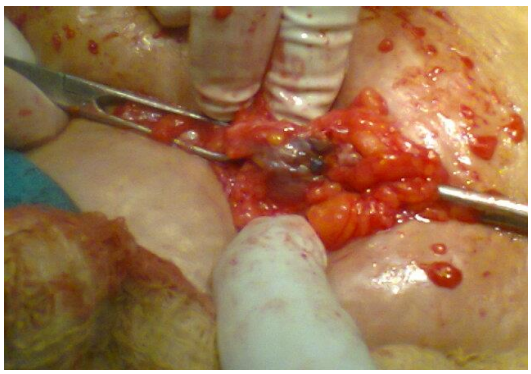

Fig 2: Intraoperative mass with hemorrahgic spot

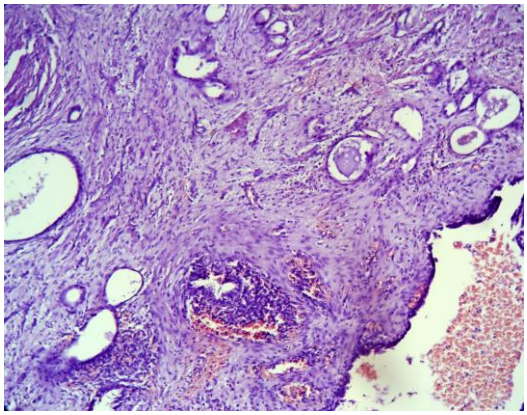

Fig 3: Histopathologic view of endometriotic gland and stroma

Case 2

A 26 year old female was seen in the gynae OPD with the complaints of pain at the lateral aspect of caesarean scar for the last 5 months. She reported that she started feeling a nodular mass at right end of caesarean scar which had gradually increased in size. The patient stated that this nodule was tender and pain aggravates during menstrual cycle. However, the overlying skin was normal. Her personal history revealed that a caesarean section had been performed 5 years back for fetal distress at term gestation. The patient had no history of other diseases and was otherwise healthy.

Local examination revealed a 4 x 4 cm hard, tender nodule felt on right lateral end of caesarean scar. Ultrasound was advised which was suggestive of a well defined hypoechoic nodule ~3.9×3.7×0.9 cm seen in parietal wall in right para-median location approximately 3 cm from mid-line ? scar endometriosis ? suture granuloma. Wide excision of the mass which also involved the rectus sheath was undertaken. Histopathology report showed presence of endometrial-like glands, spindled endometrial stroma within the soft tissue and muscle of the abdominal wall, along with inflammatory cells and surrounding fibrosis along with hemosiderin deposition either within the macrophages or in the stroma suggesting diagnosis of scar endometriosis. The patient's postoperative course was uneventful, and her pain subsided.

Case 3

A 32 year old lady P1L1 came with complaint of swelling and pain in episiotomy site since 2 year and aggrevated since 6 months. She took treatment of antibiotic course several times in view of peineal abscess. Though, pain and swelling still peristant and increased during menstruation. She had delivered vaginally with episiotomy 8 year back.

On local examination, swelling present in right vulva at episiotomy site around 3x3 cm ,firm to hard in consistency and tender to touch. Per rectal examination suggestive of same mass and rectal mucosa free. Ultasound was advised which was suggestive of ? perineal abscess. Based on high clinical suspicion of episiotomy site endometriosis, patient was posted for wide local excision of mass. Intraoperatively, 3 x 4 cm nodule was excised with hemorrahgic spots [Fig.4 and 5]. Specimen sent for histopathological examination which was suggestive of presence of endometrial glands with stroma and hemosiderin laden macrophages ie. episiotomy site endometriosis. During her follow up, the patient is free from pain and swelling in perineal region.

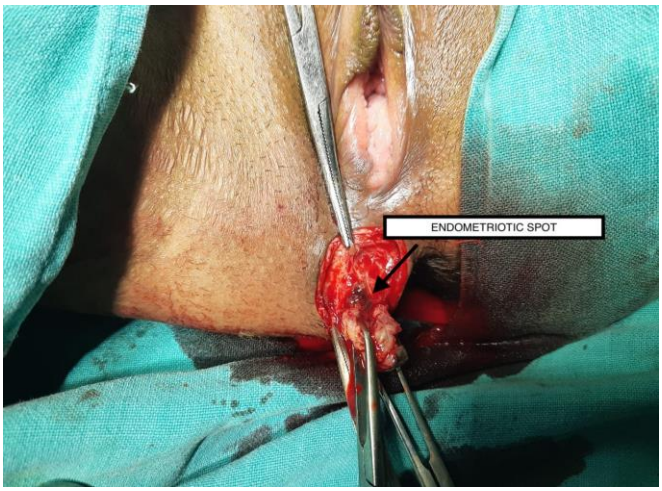

Fig 4: Endometriotic spot (arrow)

Fig 5: Specimen of excised mass

Discussion

Endometriosis is the presence of functioning endometrial tissue outside the uterine cavity [13, 14], whereas endometrioma is a well-circumscribed mass. The various sites for extra pelvic endometriosis are bladder, kidney, bowel, omentum, lymph nodes, lungs, pleura, extremities, umbilicus, hernial sacs, abdominal wall [4] and episiotomy site but its most frequent location is in the abdominal wall [7]. Endometriosis involving the abdominal wall is an unusual phenomenon which should be considered in the differential diagnosis of abdominal wall masses in women.

Scar endometriomas are usually associated with operations in which the uterus is opened [1–6] and is believed to be the result of direct inoculation of the abdominal fascia or subcutaneous tissue with endometrial cells during surgical intervention and subsequently stimulated by estrogen to produce endometriomas. 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, cesarean section, hysterotomy, ectopic pregnancy, laparoscopy and tubal ligation [8].

The usual clinical presentation is a painful nodule in a parous woman with a history of gynecological or obstetrical surgery. Time interval between operation and presentation has varied from 3 months to 10 years in different studies [12]. Most patients presented with a palpable mass at the site of maximum tenderness in the region of the surgical scar. The intensity of pain and size of nodule vary with menstrual cycle.

Sonography showed these masses to be solid, hypoechoic lesions in the abdominal wall /episiotomy site and to contain internal vascularity on Doppler examination. MRI may also aid to the preoperative diagnosis and assessement of local extent of disease. Sonograghy, MRI and fine needle aspiration cytology can be used but it is usually diagnosed by surgical excision[3] and histopathological examination.

Malignant change of endometriosis in a cesarean scar / episiotomy site is rare [9]. Follow up of endometriosis patients is important because of the chances of recurrence which was 5-9% [15] in abdominal wall endometriosis and 3.3% [16] in perineal endometriosis and may require re-excision.

We, as gynaecologists should be aware of the condition and must be able to diagnose the condition. The condition is often misdiagnosed and many patients are referred to general surgeon for the same because the clinical presentation suggests a surgical cause. Though diagnosis is difficult to make but even if it is diagnosed, often patients are given GnRH analogue like leuprolide to treat the condition which is of no use. Wide excision of the endometriotic nodule is the treatment of choice.

Conclusion

Clinically, scar site endometriosis is often misdiagnosed. Thus, awareness of the entity avoids delay in diagnosis. High index of suspicion of scar endometriosis should be kept in mind whenever a woman complaints of pain and nodular mass at the site of stitch line, with a previous history of any obstetrical or gynecological surgery. USG and FNAC may be helpful in pre-operative diagnosis. Medical treatment is not helpful and wide excision is the treatment of choice. Regular follow up is necessary to detect recurrence.

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