



SCAR ENDOMETRIOSIS: A TORMENTING GYNAECOLOGISTS CHALLENGE. CASE SERIES WITH REVIEW OF LITERATURE

Gynecology

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ABSTRACT

Abdominal wall endometriosis is being increasingly reported as a complication of caesarean section. The diagnostic difficulties lead to delay in management and increasing suffering. We present three cases of abdominal wall endometriosis in our institute with a brief discussion on clinical presentation and diagnostic modalities of this enigmatic condition.

KEYWORDS

INTRODUCTION:

The term endometriosis was coined by John A Sampson who also proposed the theory regarding the pathogenesis of endometriosis¹. Endometriosis is the presence of endometrial glands and stroma outside the uterine cavity. Scar endometriosis or abdominal wall endometrioma or endometrioma externa is the presence of functional endometrial tissue in a scar^{2,3}. It may occur in a scar following caesarean section, hysterectomy, episiotomy, amniocentesis and laparoscopy^{4,5} and appendectomy⁶.

The diagnosis is often confusing and delayed with patients following up more often with surgeons rather than gynaecologists.⁷

Considering the enigmatic nature of the condition and the diagnostic pitfalls we present a report of three cases from the Obstetrics and Gynaecology Department that developed scar endometriosis after caesarean section.

Case 1:

A 27 years, Para two with one previous caesarean section performed five years ago, presented to the out-patient department with swelling at the scar site, gradually increasing in size with pain and pricking sensation which increased during menses since six months. Examination revealed a firm tender 1 x 1.2 cm lump over the right angle of the pfannenstiell incision scar. Ultrasonography revealed an ill-defined, hypo echoic lesion of size 1.8 x 1.1 cm [figure 1 & 2] with irregular speculated margins in the rectus sheath underlying the internal oblique muscle. The lesion had multiple internal hyper reflective foci and minimal vascularity. Another irregular hypo echoic lesion of 0.9 x 0.2 cm size was seen in the left rectus abdominis muscle at lateral most extension of caesarean section scar. They gave a diagnosis of probable scar endometriosis. Fine needle aspiration cytology demonstrated fibro collagenous tissue fragments consistent with scar tissue.



Figure 1

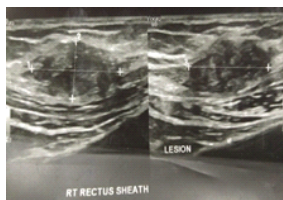


Figure 2

Figure 1 and 2: Irregular hypo echoic lesions in the rectus sheath above the internal oblique muscle with multiple hypo reflective foci.

She was prescribed Dinogest 2mg for three months and was symptom free at follow up after one month.

Case 2

A 33 years para two with previous one caesarean section for placenta praevia performed three years ago presented to the outpatient department with swelling and pain over scar region since last five months. Initially the pain was cyclical, during periods, coincided with dysmenorrhoea and now she also had pain while performing heavy work. The pain was relieved while she was taking contraceptive pills. She had a history of hypothyroidism. On examination there was a tender nodule of 1 x 2 cm at the right margin of the pfannenstiell incision scar. Ultrasonography reported a poorly defined hypo echoic lesion measuring approximately 1.3 x 1.1 x 1.1 cm in the subcutaneous plane in the anterior wall of right iliac fossa at the suture line with heterogeneous echotexture shows posterior acoustic shadowing. Color-doppler failed to reveal any vascularity. The diagnosis provided was scar granuloma or scar endometriosis. Wide local excision was done and histopathology report confirmed it as an endometrioma. She was symptom free at follow up after three months.

Case 3

A 26 year old, para two with history of previous two caesarean sections, last one performed two years ago presented to the outpatient department with pain at scar site during menses since 2 years. The pain was moderate in intensity, continuous for 7-8 days during her periods. She was taking Tab Dinogest for 2 years but there was no relief from the pain. She had a history of diabetes controlled on diet. Examination revealed a vertical scar with a 1 x 1 cm lump at the lower right border of the scar. It was easily mobile and hard in consistency. Ultrasound showed a small hypo echoic lesion measuring 2.4 x 1.5cm in the subcutaneous plane of lower anterior abdominal wall slightly to the right of the scar. The lesion was abutting the surface of underlying right rectus abdominis muscle. An excision biopsy was planned and intraoperatively 4 x 5cm endometriotic tissue was noted, adherent to the rectus sheath and peritoneum. Bladder and bowel were not involved. Histopathology confirmed and endometrioma. The patient was symptom free at follow up after one month.

DISCUSSION:

Abdominal wall endometriosis is an enigmatic but increasingly common complication following surgery. The accurate incidence is still unknown as most of the data comes from small case series considering the rare nature of the condition. Minaglia reported an incidence of 0.08% for scar endometriosis during a 30 year study period⁸, while Zhang and Liu reported it to be 1.96% in a recent retrospective study of 151 women with abdominal wall endometriosis⁹. However higher and higher incidences are being reported with more awareness and better diagnosis of the condition¹⁰. Two studies reported a relative risk of caesarean scar endometrioma as 0.1%-3.3%^{11, 12}, compared to a vaginal delivery. Andolf et al found one additional case

of endometriosis per 325 women undergoing caesarean section. However, the risk did not differ for women with one section versus two sections¹¹.

Common symptoms reported are pain and swelling at the scar site. The pain may be cyclical coinciding with periods or non cyclical^{13, 14}. Dysmenorrhea may be an accompanying symptom⁹. The nodule may bleed during menstrual period if it has an open tract. A painless nodule at scar site with bluish hue or a mass mimicking an incisional hernia have also been reported^{14, 15}. All of our patients had cyclical pain coinciding with menstruation along with a tender mass along the scar. According to Adriannase et al, 9 out of ten women reported to a surgeon rather than a gynaecologist^{10,7}. The differential diagnosis of a hematoma, hernia, sarcoma, abscess, lipoma, must be considered in these women as these may also present in a similar fashion. Malignant transformation into endometroid carcinoma, clear cell carcinoma, mucinous or serous carcinomas though rare, has been reported^{16,17}.

Direct implantation or transplantation of endometrium to the scar site is the most advocated theory for the genesis of scar endometriosis¹⁸ although theories like the coelomic metaplasia, lymphatic or haematogenous spread and modifications in cell immunity are other proposed mechanisms. The ability of the ectopic endometrial cells to resist apoptosis favours development of endometriosis¹³. The commonest location is at the ends of the scars in both vertical and pfannenstiel incisions⁹. The risk is higher with the pfannenstiel incision as it needs more dissection, creates deeper pockets that are difficult to clean completely and more disruption in capillary network providing a conducive atmosphere for growth of the seeded cells¹⁰.

Ultrasonography is an easy non-invasive modality that is first line for evaluating the site and extent of lesions. It can easily differentiate between cystic and solid lesions but lacks specificity when lesions are solids. Also, 3D ultrasound images taken in the coronal plane better aid in understanding the depth of infiltration¹⁹.

MR images usually demonstrate an isointense or slightly hyperintense signal on T2-weighted images and isointense or slightly hyperintense signal compared with muscle on T1-weighted images. Foci of high signal intensity indicate haemorrhage. The signal is affected by presence of haemoglobin degradation products depending upon the duration since bleed²⁰. Preoperative MR imaging may be useful to determine the location and depth of infiltration in surrounding tissues and aid to determine the best method for closing the defect during surgery^{21,19}. Integrating MRI and ultrasound is proposed as the best approach for accurate diagnosis²⁰.

FNAC has been used as a diagnostic tool and demonstrates specific features with cyclic variation. Sheets of epithelial cells, spindled stromal cells and hemosiderin laden macrophages. The cells demonstrate variable morphology coinciding with phases of the menstrual cycle. Homogenous syncytial honeycomb pattern in proliferative phase while increase in cell size and microvacuolation in secretory phase are seen^{16,17}. Morphologic and metaplastic changes along with nuclear atypia in these cells may confuse the diagnosis with a neoplasm and must be born in mind while reporting¹⁷. FNAC carries the risk of forming new implants. Including the site of FNAC in the excision field during surgery is advisable¹⁹.

The best treatment modality proposed so far is wide surgical excision⁹ with a 1 cm margin^{19,18,22}. One of our patient was given Dinogest and was symptom free on first follow up. However it needs to be seen if the disease recurs after cessation of treatment. Post-operative use of oral contraceptive pills and medroxyprogesterone acetate has been proposed to decrease the risk of recurrence^{9,22}.

CONCLUSION:

Endometriosis itself is a painful condition causing distress to many women in the reproductive age. Scar endometriosis is even more upsetting due to its iatrogenic nature and diagnostic dilemma. The need for better surgical practices and to keep an open eye for earlier diagnosis and management cannot be emphasized more.

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