

Abdominal Wall Endometriosis: Report Of A Case And How Much We Know About It?

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Abstract

Endometriosis is a common gynaecological condition that sometimes presents to general surgeons as a lump in the abdomen. It can pose a diagnostic dilemma and should be in the differential diagnosis of lumps in the abdomen in females. Diagnosis is usually made on histology. We discuss a case of recurrent abdominal wall endometriosis following caesarian section. The incidence, pathophysiology, course, diagnosis, treatment and prevention of this condition are also reviewed.

INTRODUCTION

Endometriosis was first described by Rokitansky in 1860 and was defined as the presence and proliferation of endometrium outside the uterine cavity, commonest site being pelvis. Abdominal wall endometriosis mostly follows obstetrical and gynecological surgeries. The actual incidence of abdominal wall endometriosis is unknown but one series reported that only 6% of these were unrelated to scars. In another series the prevalence of surgically proven endometriosis in scars was 1.6%¹. The most common site is a caesarean section scar². But there are case reports of involvement of the rectus abdominis muscle in a virgin abdomen^{3, 4}.

Endometriosis, in patients with scars, is more common in the abdominal skin and subcutaneous tissue compared to muscle and fascia. Endometriosis involving only the rectus muscle and sheath is very rare⁵. The simultaneous occurrence of pelvic endometriosis with scar endometriosis has been found to be infrequent⁶.

Scar endometriosis is rare and difficult to diagnose, often confused with other surgical conditions. We report a case of recurrent scar endometriosis following cesarean section, which was misdiagnosed as stitch granuloma initially and review relevant literature.

CASE REPORT

A 42 year old lady presented with a painful nodule on the lateral aspect of a pfannensteil incision two years after a caesarean section. This was initially thought to be a stitch

granuloma. Two years following that, she underwent abdominal hysterectomy for adenomyosis through the same abdominal incision. Following hysterectomy, the abdominal wall nodule persisted and gradually enlarged in size. At presentation, there was a 2.5 cm firm discolored lump in the abdominal wall at right iliac fossa, fixed to underlying abdominal wall muscles and skin at the lateral aspect of the pfannensteil incision. A wide local excision was performed. The abdominal wall nodule was extraperitoneal. The adherent skin, subcutaneous fat, fascia and external oblique muscle were excised with a clear margin (1cm). The wound was closed primarily. The post operative recovery was uneventful and the patient remained disease free at 12 months after surgery. Pathological examination confirmed that it was endometriosis and the margins of excision were free of disease. She was given Danazol 100 mg twice daily for initial six months.

HISTOPATHOLOGY

The excised skin specimen showed foci of endometrial glands surrounded by endometrial stroma, embedded in fibrous scar tissue in the subcutis. Both the glandular epithelium and the stroma showed active proliferation with easily recognizable mitotic figures. A few aggregates of chronic inflammatory cells were associated with some foci of endometrial glands. (Fig 1& 2)

Figure 1

Figure 1: Photomicrograph showing endometriotic glands and stroma embedded in scar tissue (low power)

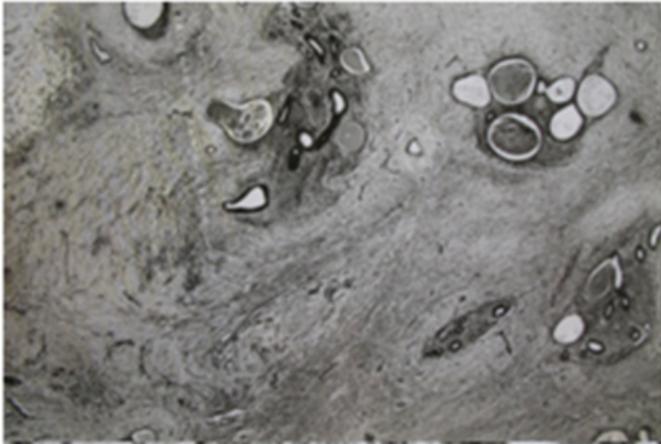
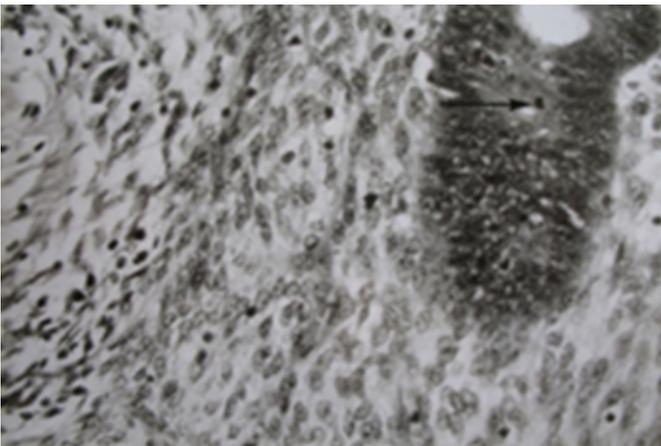


Figure 2

Figure 2: Photomicrograph showing endometriotic glands and stroma with mitotic figures (arrow and high power)



DISCUSSION

Endometriosis is presence of functioning endometrial tissue outside the uterine cavity, whereas endometrioma is its well-circumscribed mass. The various sites for extra pelvic endometriosis are bladder, kidney, bowel, omentum, lymph nodes, lungs, pleura, extremities, umbilicus, hernial sacs, and abdominal wall⁷. Endometriosis involving the abdominal wall is an unusual phenomenon that should be considered in the differential diagnosis of abdominal wall masses in women⁵.

The usual clinical presentation is a painful nodule in a parous woman with a history of gynecological or obstetrical surgery. The intensity of pain and size of nodule vary with menstrual cycle.

PATHOPHYSIOLOGY

The proposed theories⁸ of endometrioma formation are:

- Retrograde spread of collections of endometrial cells during menstruation
- Blood, lymphatic or iatrogenic spread
- Metaplasia of the pelvic peritoneal cells
- Immune system dysfunction and autoantibody formation

The development of intrapelvic endometriosis may involve retrograde menstruation, maturation of extrauterine primordial cell remnants of embryogenesis, or hematologic or lymphatic spread of endometrial cells. Extrapelvic endometriosis in the lung, skin, and extremities not associated with surgical violation of the uterus is believed to be the result of hematogenous or lymphatic spread of endometrial tissue^{9, 10}.

Scar endometriomas are 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. This theory is convincingly demonstrated by experiments in which normal menstrual effluent transplanted to the abdominal wall resulted in subcutaneous endometriosis¹¹. 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 cesarean section^{12, 13, 14}.

The presence of endometrial tissue can induce metaplasia of the surrounding fascial tissue to form an endometrioma. Alternatively, endometrial cells may reach a caesarean scar via lymphatic or haematogenous routes and subsequently grow into an endometrioma by one of the mechanisms described above. This may cause rare occurrence of abdominal wall endometrioma without any surgical intervention¹⁵.

Scar endometriosis most commonly occurs after operation on the uterus and tubes. The incidence following hysterotomy is 1.08-2% where as after cesarean section the incidence is 0.03-0.4%⁵. The reason for higher incidence after hysterotomy has been given as the early decidua has more pluripotential capabilities and can result in cellular

replication producing endometriomas.

Time interval between operation and presentation has varied from 3 months to 10 years in different series⁵. In the present case, it was two years.

DIAGNOSIS

Scar endometriosis is rare and difficult to diagnose, often misdiagnosed as stitch granuloma, inguinal hernia, lipoma, abscess, cyst¹⁶, incisional hernia¹⁷, desmoid tumor, sarcoma, lymphoma, or primary and metastatic cancer².

A high index of suspicion is recommended when a woman presents with post operative abdominal lump¹⁸.

A good surgical and gynaecological history, as well as a thorough examination with appropriate imaging techniques (ultrasound, CT or MRI) will usually lead to a correct diagnosis. The presence of cyclic pain in an incisional mass associated with a cesarean section scar is almost pathognomonic for the condition. Some authors believe that when the diagnosis is made on clinical grounds, no further studies are necessary before wide surgical excision¹⁶.

On the contrary, review of the surgical literature indicates that preoperative diagnosis is often incorrect^{19, 20}. Hence, whenever the diagnosis is uncertain, efforts should be made to make a preoperative diagnosis with the help of imaging techniques and FNAC. FNAC has been reported to be accurate in diagnosis²³, but in a recent report by Dwivedi et al²⁴, this was not diagnostic in any of the four patients who underwent this procedure. Nonetheless it may be helpful in eliminating malignancy from the diagnosis. Caution should be used if suspicion of incisional hernia is present²⁵.

Sonographic and color Doppler when combined with clinical data may substantially contribute to the preoperative diagnosis²¹. These lesions appear as hypoechoic, vascular, and solid, with some cystic changes. CT usually shows a solid, well-circumscribed mass. MRI can be more helpful when the lesion is small because of its high spatial resolution, furthermore it is better than CT scan in detecting the planes between muscles and abdominal subcutaneous tissue²².

MANAGEMENT

Treatment of choice is always total wide excision of the lesion and may sometimes require mesh placement^{2, 4, 6, 8}.

Medical treatment with the use of progestogens, oral contraceptive pills, and danazol is not effective and gives

only partial relief in symptoms and do not ablate the lesion. Moreover due to side effects such as amenorrhea, weight gain, hirsutism, and acne, compliance is unlikely. Recently there has been report of use of gonadotrophin agonist (Leuprolide acetate) but has been found to provide only prompt improvement in symptoms with no change in the lesion size²⁹.

MALIGNANT RISK

Malignant change of endometriosis in a cesarean scar (CS) is rare²⁶. Long-standing recurrent scar endometriosis could undergo malignant changes and clinician should be aware. Only 21.3% of cases of malignant transformation of endometriosis occur at extragonadal pelvic sites, 4% of cases in scars after laparotomy²⁷. Clear-cell carcinoma is the most common histological subtype, followed by endometrioid carcinoma²⁸. In the literature, survival rate reaches only 57% after a short follow-up of 20 months. Treatment is radical surgical resection followed by prosthetic abdominal wall repair. Compared with endometriosis-associated ovarian carcinoma, the prognosis of abdominal scar complication is poor²⁸.

FOLLOW UP AND PREVENTION

These patients need to be followed up because of the chances of recurrence, which require re-excision¹⁰. In cases of continual recurrence possibility of malignancy needs to be ruled out.

Good technique and proper care during cesarean section may help in preventing endometriosis. It has been suggested that at the end of surgery especially on uterus and tubes, the abdominal wall wound should be cleaned thoroughly and irrigated vigorously with high jet solution before closure³⁰.

CONCLUSION

General surgeons are infrequently involved in the management of cesarean section scar lesions. The lack of awareness makes the preoperative diagnosis unnoticed. The presence of cyclic pain in an incisional mass associated with a cesarean section scar is almost pathognomonic for the condition. When the diagnosis is made on clinical grounds, no further studies are necessary before wide surgical excision. However, imaging techniques, laparoscopy and FNAC are indicated towards better diagnostic approach. In presence of frequent recurrences, malignancy should be suspected, which carries a poor prognosis.

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