

Case Report

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Scar Endometriosis; A Case Report of this Uncommon Entity and Review of the Literature

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Abstract

Scar endometriosis is an infrequent type of extrapelvic endometriosis that is rather close together with obstetrical and gynecological surgeries. It is mostly confused with other dermatological or surgical conditions and delays the diagnosis. We report a case of a 50-year-old woman presenting with scar endometriosis 23 years after her last lower segment caesarean section. The epidemiology, diagnosis, pathogenesis, and treatment of the situation are discussed.

Keywords: Scar endometriosis; Caserean scar; Abdominal wall

Introduction

Endometriosis is admitted as the presence of endometrial-like stroma and glands outside the uterine endometrial area [1]. It generally occurs in the pelvic sites such as the ovaries, posterior cul-de-sac, uterine ligaments, pelvic peritoneum, bowel, and rectovaginal septum. Extrapelvic endometriosis can be found in unusual places like, in the nervous system, thorax, urinary tract, gastrointestinal tract and in cutaneous tissues unless it's most frequent location is the abdominal wall [2]. The main cause of extrapelvic implants is obstetric and gynecological procedures performed during gestation [3,4].

There are various theories of the scar endometriosis. One of them is the direct implantation of the endometrial tissue in scars during the operation [5]. Under proper hormonal stimulus these cells may proliferate (cellular transport theory) or the neighbourhood tissue may undergo metaplasia, which leads to scar endometriosis (coelomic metaplasia theory). By lymphatic or vascular pathways the endometrial tissue may reach the surgical scar and then generate to scar endometriosis.

Case Report

A 50 year old woman presented in February 2011 with the complaint of pain, and swelling on the cesarean scar for last one year. Additionally she described cyclic bleeding from this mass for last 2 months. She previously had three cesarean deliveries, between 1984 and 1988 and one spontaneous vaginal delivery thirty years ago. She described pain above the cesarean scar that increased during the menstruation period and then noticed a swelling above cesarean scar. She declared mild bleeding from this mass that correlates the first days of her menstruation period.

Examination revealed approximately 3 cm wide, tender, strict and immobile right subcutaneous mass beneath the low segment caserean scar with a little orifice. Transvaginal and transabdominal ultrasound showed a 4 cm×3 cm×4 cm, oval shaped heterogeneous mass within the right rectus abdominis muscle, with no abnormalities of the uterus and ovaries (Figure 1a).

Based on characteristic history and examination findings, behind the most probable choice of endometriosis, other possibilities like hematoma, granuloma, desmoid tumour etc. were considered.

The mass was undertaken wide excision and prosthetic mesh was used to close this defect in the rectus sheath (Figure 1b). The operation and postoperative consultation was absolute with good functional and cosmetic results.

Histopathology of the excised mass confirmed the case of scar

endometriosis (Figure 2). The patient was examined in the Department of Obstetrics and Gynaecology and found any recurrence in the first year follow up.

Discussion

Scar endometriosis usually follows previous abdominal surgery especially early hysterotomy and cesarean section. Minaglia et al. who analyzed 30 years of incisional endometriosis after caesarean section found the incidence of scar endometriosis is 0.08% [6]. Ectopic pregnancies, salpingostomies, puerperal sterilization, laparoscopy, amniocentesis, appendectomy, episiotomy, vaginal hysterectomies,

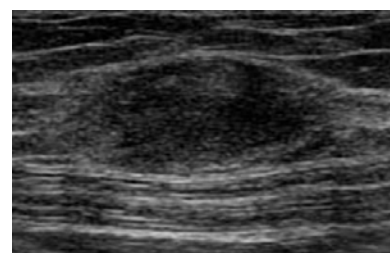


Figure 1a: USG in the transvers plane show echogenic subcutaneous mass.

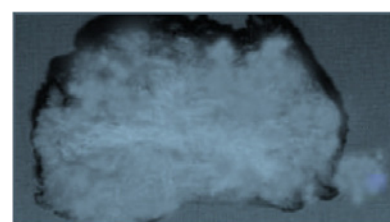


Figure 1b: Gross photograph showing grey-white fibrous area with tiny cysts in the subcutaneous fat.

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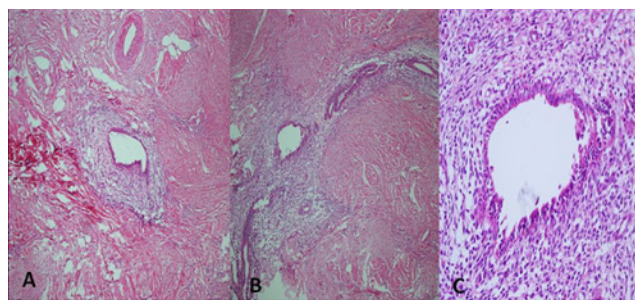


Figure 2: (A) Endometriotic glands and stroma in the subcutaneous tissue. (B-C) Dense chromatin nuclei with subnuclear vacuoles corresponding to early secretory phase. (Hematoxylineosin stain; original magnification: A, X20; B, X10; C, X40).

and hernia repair are the other surgical factors for scar endometriosis [7-9]. The reported incidence after midtrimester abortion is about 1% also after cesarean sections ranges from 0.03% to 0.45% [10]. Frequency of scar endometriosis increase by induced number of cesarean section and laparoscopy performed in recent years [11].

Direct mechanical implantation seems to be the most plausible theory for explaining scar endometriosis. During caesarean section, endometrial tissue might be seeded into the wound and under the same hormonal influences these cells proliferates [12]. It can be explain by endometrium during pregnancy may have certain abilities that make implantation and transplantation. According to this hypothesis, the strongest risk factor for development of scar endometriosis is early hysterectomy like for hysterectomies for abortion [13]. Oliveira et al [13] demonstrate heavy menstrual blood flow and alcohol consumption were positively related to scar endometriosis, conversely high parity may be a protecting factor [14]. However, direct implantation of endometrial tissue cannot explain all cases. There are few cases of primary cutaneous endometriosis without prior abdominal surgery such as vulva, perineum, groin, umbilicus and extremities [15], even nasolacrimal localisations [16].

Clinical diagnosis of scar endometriosis can be made by a careful history and physical examination. The patients present with a mass near the previous surgical scars, accompanied by increasing colicky-like pain during the menstruation [17]. Usually, there is a history of a gynecologic or rarely a non-gynecologic abdominal operation. In these patients, correct diagnosis relies on careful examination, right questioning, and obviously taking endometriosis in consideration.

Furthermore scar endometriosis is a rare entity; the highlight of this case is the long distant duration from the previous caesarean sections. The interval between the previous caesarean sections and symptoms was 23 years. The patient encountered these worsening symptoms at the perimenopausal age. The underlying reason of this aspect may be the dysfunction of the hypothalamic-pituitary-ovarian axis which becomes a more common finding in peri and postmenopausal women group. Anovulatory cycles produce no progesterone to stabilize cyclic withdrawal of the estrogen-prepared endometrium, bleeding episodes become irregular and menorrhagia are common [18]. Also there are greater risks of benign and malignant neoplastic growth with the increasing age.

When a proper prediagnosis cannot be achieved, scar endometriosis can be easily mixed with other surgical conditions like hematoma, neuroma, hernia, granuloma, abscess, scar tissue, neoplastic tissue, or even metastatic carcinoma [19] which are a simple excuse to refer the patient to the general surgeon. Often, the diagnosis of endometriosis

is not suggested until after histology has been performed. Correct preoperative diagnosis is achieved in 20 to 50% of these patients [20].

The worth of various methods of investigation, such as ultrasonographic examination, computed tomography, magnetic resonance imaging, Doppler sonography, or fine needle biopsy in the diagnosis of scar endometriomas, is not clear. Imaging procedures help, rather than confirm, in obtaining a differential diagnosis. Ultrasonography is the best and most commonly used investigational procedure for abdominal masses, given its practicality and lower cost. The mass may appear hypo echoic and heterogeneous mass with messy internal echoes. On computed tomography, the endometrioma may appear as a circumscribed solid or mixed mass, enhanced by contrast, and show hemorrhages. Kinkel et al. [20] revealed the sensitivity and specificity of MRI in diagnosing endometriomas are 90-92% and 91-98%, respectively [21]. MRI is also a useful modality for presurgical mapping of deep pelvic endometriosis. Infiltration of abdominal wall and subcutaneous tissues is much better assessed by MRI [22]. Tomographic scans and magnetic resonance imaging are more useful in demonstrating incisional hernias and differential diagnosis [23]. Fine-Needle Aspiration Cytology (FNAC) was reported in some studies for confirming the diagnosis [24]. However FNAC cytology is liable method to make the diagnosis of scars, surgeons must be aware of some diagnosis such as inguinal hernia and reimplantation of potential malignancies during process. Our opinion of FNAC is accurate only in cases of large masses, doubtful diagnosis and atypical clinical presentations.

Histology is the hallmark of diagnosis. It is satisfied if endometrial glands, stroma, and hemosiderin pigment are seen [25]. 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 diagnose and to exclude malignancy [26].

Local wide excision, with at least a 1 cm margin, is accurate treatment choice of scar endometriosis also for recurrent lesions. Recurrence of scar endometriosis is seldomly happen that only a few cases reported. As expected, the larger and deeper lesions to the muscle or the fascia are more difficult to excise completely. In large lesions, complete excision of the lesion may entail a synthetic mesh placement or tissue transfer for closure after resection [27]. Medical therapy with danazol, progesterone and GnRH produces only partial recovery and mostly recurrence occurs after cessation of the treatment with extreme side effects [28]. The incidence of concomitant pelvic endometriosis with scar endometriosis has been reported to be from 14.3 to 26% [29]. Ideally, all patients must be examined for concomitant pelvic endometriosis. At this point, postoperative follow-up with a gynaecologist is preferable.

Conflicts of Interest

None declared.

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Ethical Approval

Institutional Ethics Committee.

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