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Scar Endometriosis – Cause for Scar Agony. Two Case Reports of Cesarean Scar Endometriosis

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I. Introduction

Endometriosis is defined as presence of functioning endometrial glands and stroma outside the uterine cavity[1].

It may be pelvic or extra-pelvic; the most common pelvic sites are the ovaries, posterior cul-de-sac, ligaments of the uterus, pelvic peritoneum, and rectovaginal septum. The major sites for extra-pelvic endometriosis include the lungs, pleura, kidneys, bladder, omentum, bowels, lymph nodes, and abdominal wall.

Scar endometriosis is a rare type of endometriosis usually follows obstetrical and gynecological surgeries We report two cases with caesarean scar endometriosis

II. Case Report 1

38yr old female P2L2 tubectomised with previous 2 LSCS , last LSCS was 7yrs back. She came with complaints of cyclical pain at scar site since 6months. On examination an indurated mass of 4x4cm noted with no inflammatory signs. On ultrasound – An illdefined heterogeneous hypoechoic lesion measuring 2.7x2.3cm noted in subcutaneous plane and intramural plane at incisional site in midline with minimal internal vascularity.

Under TAB block surgical exploration was revealed a mass of 6x4cm at subcutaneous plane , en block excision of mass was performed and sent for HPE. Histopathology showed presence of endometrial glands and stroma with adjacent fibromuscular tissue.

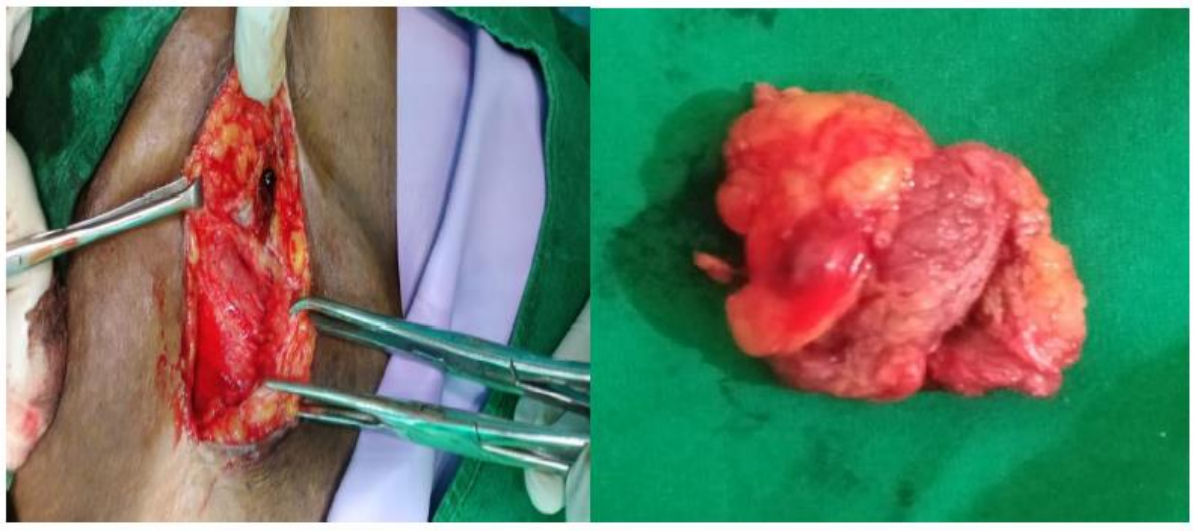

Figure 1: Gross photography showing endometriosis mass

CASE REPORT 2

A 42yr female with P3L2 tubectomised came with complaints of cyclical pain and swelling on scar site since 3months. Patient had 1LSCS 8yrs back. On examination nodular mass of 3x2cm noted on LIF below the scar with firm in consistency and tender. On USG – 3x1.6cm well defined hypoechoic lesion in subcutaneous plane of anterior abdominal wall in suprapubic region was noted and left adnexal cyst of 7.2x5.4cm noted

Under general anesthesia laproscopic cystectomy done followed by abdomen opened, mass of 3x3cm excised at subcutaneous plane, rectus sheath incised and peritoneum opened. Endometriotic tissue separated from rectus muscle and excised, HPE findings confirmed the diagnosis of scar endometriosis.

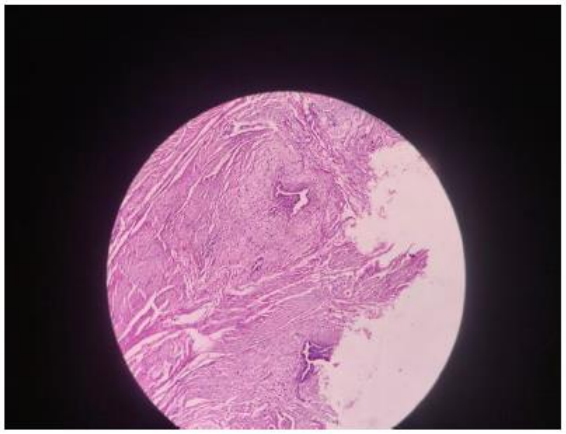

Figure 2 : Histopathology showing endometriotic glands and stroma in the subcutaneous tissue

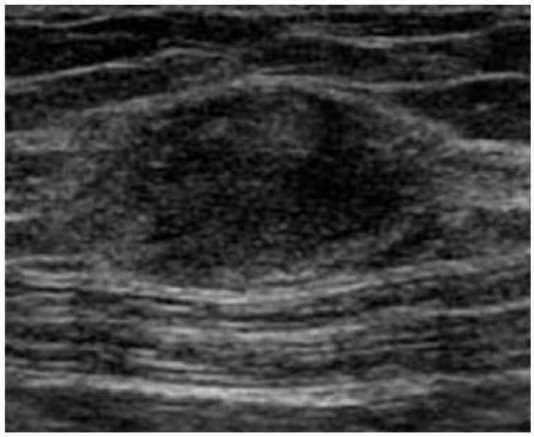

Figure 3 : Usg in the transverse plane showing echogenic subcutaneous mass

III. Discussion :

The prevalence of extra pelvic endometriosis is between 9% and 15% in the literature . The most common site of extrapelvic endometriosis is the Pfannenstiel scar which represents 44% of all the 34 cases reported in the 2004 study by Douglas and Rotimi [2].

Abdominal wall endometriosis (AWE) is one of the most frequent extra pelvic locations, mostly occur due to previous surgical scars from obstetrical and gynecological procedures such as caesarean delivery, hysterectomy, episiotomy, and tubal ligations [3,4,5]. The most frequent localization of endometriosis in surgical scars is in the abdominal skin and subcutaneous tissue [6].

The incidence of scar endometriosis after caesarean scar is 0.08%[7]. There are various theories concerning the scar endometriosis. One of them is the direct implantation of the endometrial tissue in scars during the operation [8]. Under proper hormonal stimulus, these cells may proliferate (cellular transport theory) or the neighborhood 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.

As the most common type of AWE, CSE is best explained by the iatrogenic direct implantation theory. During cesarean delivery, endometrial tissue is seeded into the wound. With an appropriate supply of nutrients and hormonal stimuli, these endometrial cells survive and proliferate, finally leading to CSE.

Pfannenstiel incision and vertical midline incision are the two most frequently used abdominal skin incisions.CSE in patients with Pfannenstiel incisions occurred earlier than in patients with vertical incisions. This indicates that, compared to the vertical incision, the Pfannenstiel incision might be more favorable to the implantation and proliferation of the residual endometrial cells. We suggest two possible causes for the favorable role of the Pfannenstiel incision. First, the Pfannenstiel incision involves wider dissection planes and more gaps, rendering tissue irrigation difficult and inducing much more endometrial cell contamination [9]. The second cause is a larger nutrient supply. Due to the longitudinal pattern of the abdominal vessels and the large dissection, more capillaries are cut off during a Pfannenstiel incision than in a vertical incision, causing more blood loss. Endometrial cells require an adequate blood supply to survive in their ectopic sites, and angiogenesis plays an important role in the pathogenesis of endometriosis [10]. Therefore, more blood loss in the Pfannenstiel incision would provide a relatively rich nutritional environment for the implantation and growth of residual endometrial cells, favoring the occurrence of CSE.

Although the duration for the occurrence of clinical symptoms varies from 3 months to 15 years, in our both case, it occurred 7years after the second surgery [11].

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 [12].

To diagnose and precisely locate the extent of the lesion, we use imaging tests like ultrasonography which confirm the lesion, even if small, and provides information on its size, location, margins, and internal

structure. Ultrasonography can easily differentiate solid from cystic masses. CT or MRI can be used in case the diagnosis is in doubt.

Abdominal wall endometriosis could mimic incisional and ventral hernias, hematomas, benign or malignant subcutaneous tumors, high awareness and suspicion are required to make diagnosis.

There are two methods to treat SCE, surgical or non-surgical. For the non-surgical, we could use GNRH analogs, Progesterone, oral contraceptive pills and danazol have been tried which help to alleviate clinical symptoms, but this method did not reduce the size and recurrence after the cessation of medication is constant [13]. The drugs offer only a temporary alleviation of symptoms that are often followed by recurrence after cessation of drug intake [14]. Instead, used as an adjuvant hormonal therapy after surgical excision, it decreased the recurrence from 42.9% to 11% [15]. Local recurrence is very variable and can occur, especially after an inadequate surgical excision.

Surgical treatment offers the best chance for making a definitive diagnosis and treating cesarean scar endometriosis. The excision should include clear margins of at least 1cm away from the solid tissue[16]. In large lesions, placement of synthetic mesh may be required. In large lesions, complete excision of the lesion may entail a synthetic mesh placement or tissue transfer for closure after resection [17].

Although CSE is a rare event, it manifests as a painful subcutaneous mass and usually bothers the patient for several years. Additionally, CSE can undergo malignant change, which is rapidly fatal and has a survival rate of only 57% [18]. Hence, it is necessary to take precautions to prevent or reduce the occurrence of CSE.

No technique has proven to be effective to prevent parietal implants of endometrial tissue. On the basis of the implantation theory, we propose a variety of preventive measures: 1) Avoid evagination of the endometrium during closure of the uterine incision 2) do not exteriorize the uterus during repair, exposure of endometrial mucosa during uterus suturing should be limited 3) do not use gauze sponge to clean the inner surface of the uterus 4) wash the parietal scar using saline under pressure and 5) peritonization may be advised, although there is no definitive data about these issues [19].

IV. Conclusion

Proper history taking and physical examination are the key for diagnosis. The most common findings are swelling, pain, and rarely bleeding in the lesion area. Menstruation-related pain and swelling in the history should be considered to be pathognomonic for scar endometriosis. Ultrasound scan is complimentary to the diagnosis in some cases. The definite treatment is surgical excision. The diagnosis is confirmed by the histopathological examination of the excised tissue.

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