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Case Report

Scar endometriosis: a rare case report

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ABSTRACT

Endometriosis is a challenging topic in gynaecology, and its diagnosis necessitates a high level of suspicion, particularly when it presents at extra-pelvic sites. Extra-pelvic endometriosis, though relatively rare, can manifest in various forms, with cutaneous endometriosis being the most common. Scar endometriosis is an uncommon manifestation of endometriosis where endometrial tissue is located within the abdominal wall following a caesarean section. This case report details a 30-year-old female with scar endometriosis and reviews the current literature on its management. Scar endometriosis often poses a diagnostic challenge due to its ability to mimic other conditions, including malignancy. Accurate diagnosis requires a combination of clinical evaluation, imaging studies, and histopathological examination. Multidisciplinary approaches are crucial for effective management. This case underscores the importance of considering scar endometriosis in patients with post-caesarean section abdominal wall masses. A thorough diagnostic workup and surgical intervention are key to resolving symptoms and preventing recurrence.

Keywords: Scar endometriosis, Caesarean section, Abdominal wall, Case report, Surgical management, Differential diagnosis

INTRODUCTION

Endometriosis is a medical condition where functioning endometrial tissue, which normally lines the inside of the uterus, is found outside the uterine cavity. It was first described in 1860 and is prevalent in 10-15% of women of reproductive age. This tissue commonly affects pelvic areas such as the ovaries, posterior cul-de-sac, and pelvic peritoneum.[1] Extra-pelvic endometriosis, while relatively rare, occurs in about 8.9% of all endometriosis cases, with a mean age of 35 years. The most frequent type of extra-pelvic endometriosis is cutaneous endometriosis, which involves the appearance of endometrial tissue in scar tissue following obstetric or gynaecologic surgeries, such as episiotomy, hysterectomy, caesarean section, or laparoscopic procedures.[2] The incidence of scar endometriosis following caesarean delivery ranges from 0.03% to 0.4%.[3] The exact cause of endometriosis is not fully understood, but theories include retrograde menstruation (the backward flow of menstrual blood), hematogenous or lymphatic spread, genetic predisposition, surgical transplantation, and exposure to environmental toxins such as dioxins. Endometriosis is often asymptomatic, meaning many individuals may have extensive disease without experiencing significant symptoms. Conversely, some individuals with minimal disease may suffer from severe pain and other symptoms.[4,5] Symptomatic cases of endometriosis may present with various complaints, including, dysmenorrhea (painful menstruation), dyspareunia (painful intercourse), infertility, fatigue, painful micturition (pain during urination), painful defecation (pain during bowel movements) during menstruation. Endometriosis of the abdominal wall presents diagnostic challenges for clinicians. It is often misdiagnosed or confused with other conditions in clinical evaluations or diagnostic imaging. These conditions may include, Lipoma (benign fatty tumor), Abscess (a localized infection or pus-filled cavity),

Granuloma (a mass of inflamed tissue), Incisional hernia (a hernia at the site of a surgical incision), Primary or metastatic cancer.[6] Despite these challenges, a mass in the abdominal wall that is associated with cyclic pain related to menstruation, swelling, and tenderness before menses is highly suggestive of abdominal wall endometriosis. This presentation is often considered nearly pathognomonic for abdominal wall endometriosis.[7,8]

CASE REPORT

A thirty-year-old female, married since 5 years, with one live birth by lower segment cesarean section, done 3 years back in view of oligohydramnios with fetal distress, came to our hospital with complain of swelling just above the caesarean section (LSCS) scar since one year which was gradually progressive in size and associated with cyclical pain. The patient was vitally stable, her general condition was fair and she was conscious, oriented to time, place and person. On general examination, her pulse was 88/min in the right radial artery with good volume and rhythm, blood pressure was 110/70 mmHg measured in the right brachial artery in the supine position. She had no pallor, icterus, clubbing, cyanosis or lymphadenopathy. Systemic examination was found to be within normal parameters. On per abdominal examination there was a hard, round mass of 3×4 cm size just above the LSCS scar, rest of the abdomen was soft with no guarding, tenderness, rigidity. The differential diagnosis was implantation dermoid cyst, foreign body (stitch) granuloma, lipoma (lipo-fibroma), or abscess. On ultrasound examination of the abdomen and pelvis, no significant abnormality was found. On CT scan, a 30×43×26 mm well defined homogenously enhancing hypodense mass was seen in the subcutaneous plane, in the lower left abdomen abutting the underlying rectus abdominis muscle.

Excision of the mass was done under spinal anesthesia by separating it from the surrounding fat tissue and rectus sheath and muscle. Inferiorly the mass was densely adherent to the rectus sheath which had to be excised along with the mass and reconstruction of the rectus sheath was done. Histopathological examination of the mass revealed features of endometriosis associated with nonspecific organizing inflammation.

Figure 1: Ultrasound image of scar endometriosis.

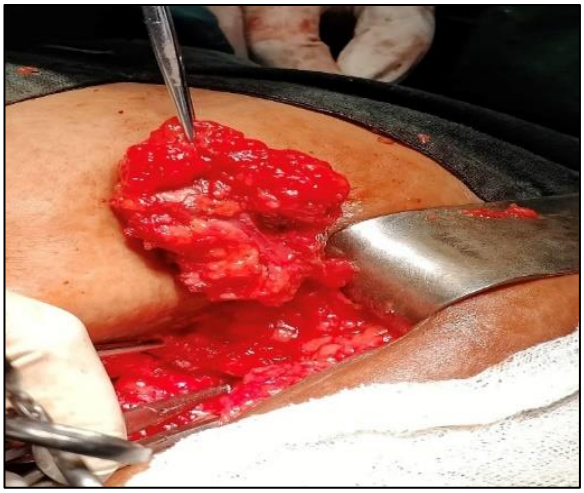

Figure 2: Intra operative image of scar endometriosis.

Figure 3: Excised scar endometriosis.

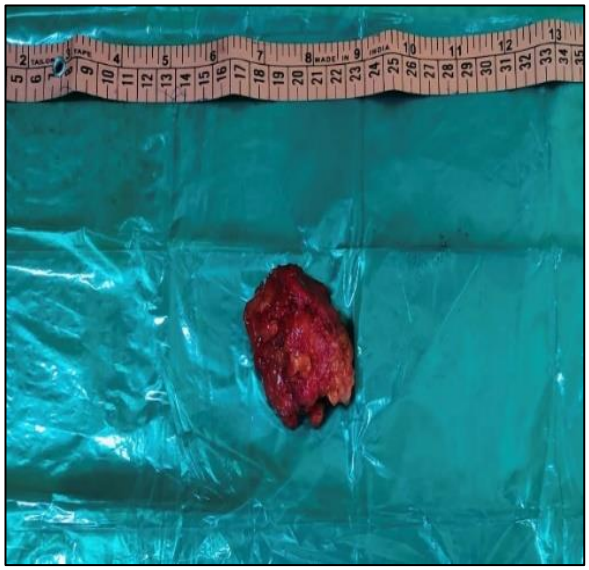

Figure 4: Specimen image of scar endometriosis.

Figure 5: Specimen image of scar endometriosis (dissected).

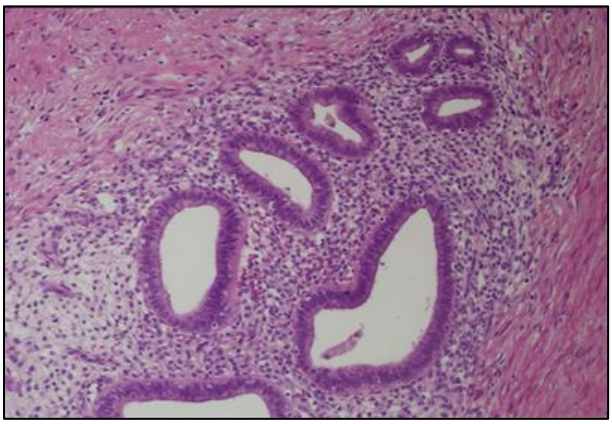

Figure 6: Histological image of scar endometriosis.

DISCUSSION

Endometriosis in and around caesarean section scars is a rare but notable condition. The frequency of this type of endometriosis is reported to be between 0.03%-0.04% and 0.8%. Detailed history taking and pelvic examination are crucial in identifying scar endometriosis.[10] Needle aspiration cytology is still debated in its utility for diagnosing this condition. Pre-surgical diagnosis can be challenging, as it must be distinguished from other conditions such as hernia, hematoma, granuloma, and tumors. Imaging techniques like sonography and fine needle aspiration cytology can be helpful, but surgical excision followed by histopathological examination is typically required for a definitive diagnosis.[9]

Pathogenesis

The development of abdominal wall endometriosis is best explained by several theories.

Metaplasia

Endometrial-like tissue forms in the abdominal wall due to cellular transformation.

Venous or lymphatic metastasis

Endometrial cells spread through blood or lymphatic vessels.

Mechanical transplantation

The most widely accepted theory, where viable endometrial cells are implanted into the scar tissue during the surgical procedure.

Treatment

Complete surgical excision, including removal of the adjacent fascia or skin, is considered the appropriate treatment for abdominal wall endometriosis. This approach ensures the thorough removal of affected tissues and minimizes the risk of recurrence.[11] To prevent residual contamination of the wound, several practices are recommended such as, immediate disposal of surgical sponges after cleaning the uterine cavity, avoiding reuse of suture materials for closing the abdominal wall, thorough cleaning and saline irrigation of the surgical area before closure.[12] Understanding and addressing the potential for endometrial cells to be introduced into surgical scars during procedures can help mitigate the risk of abdominal wall endometriosis.

Although medical treatments such as oral contraceptives, progestins, medroxyprogesterone acetate, and gonadotropin-releasing hormone (GnRH) agonists have been used for managing endometriosis, achieving complete regression through these methods alone is rare. Total surgical excision remains the gold standard for both diagnosing and treating abdominal wall endometriosis. Fine-needle aspiration biopsy can be employed for evaluating subcutaneous abdominal masses but is not commonly used for diagnosing abdominal wall endometriosis due to the difficulty in identifying this condition pre-operatively.[13]

Recurrence of abdominal wall endometriosis following adequate surgical treatment is uncommon. If recurrence does occur, it is often due to incomplete removal of the affected tissue. There have been reports of malignant transformation from abdominal wall endometriosis. For example, endometrioid carcinoma has been documented to develop in abdominal wall endometriosis many years after a hysterectomy.[9]

Postoperative follow-up with a gynaecologist is recommended because pelvic endometriosis may coexist or develop concurrently. Medical treatment may be added after surgery if deemed necessary to manage any residual or recurrent disease. The prophylactic measures mentioned above are important to reduce the likelihood of endometrial cells being inadvertently implanted into the surgical scar, thereby decreasing the risk of abdominal wall endometriosis.[14] Several other case reports on scar endometriosis have highlighted the challenge in diagnosis

of this rare condition and the difficulty in preventing its recurrence. One such study was conducted by Shailendra Katwal et al in 2023.[15]

Another study conducted by Manal Saleh Al Hoshan and coworkers highlights the occurrence of scar endometriosis in a 35-year-old female post caesarean section and its presenting features.[16]

CONCLUSION

Endometriosis should be considered in the differential diagnosis of lumps or masses associated with a surgical scar, inguinal canal, or pelvis, particularly when symptoms exhibit a cyclical pattern. Although abdominal wall endometriosis is relatively rare today, its prevalence may increase due to the rising number of caesarean deliveries and other surgical procedures. Increased awareness and familiarity with its symptoms and signs are crucial for early diagnosis and management. Surgical excision is the most effective approach for treating abdominal wall endometriosis. Medical treatments are generally less effective in achieving complete regression. Follow-up care is crucial to monitor for recurrence or associated conditions.

Thus, prompt recognition and appropriate management, including potential referral to a gynaecologist for additional medical therapy, are key to effectively treating and managing endometriosis in such contexts.

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