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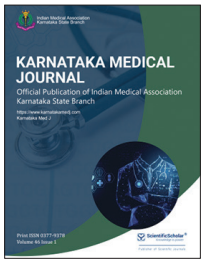

Case Report

Abdominal wall endometriosis: A rare case report

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ABSTRACT

Abdominal wall endometriosis (AWE) is a rare condition that occurs after a caesarean section or pelvic surgery, and it has an incidence of 0.03–1.5% in women with previous caesarean delivery. While commonly seen in the cutaneous and subcutaneous fat tissue at the caesarean scar level, but the involvement of muscle is quite rare. The predominant clinical feature is cyclic pain over the mass; however, the presentation varies. The presence of endometrial tissue in the abdomen, whether cutaneous, subcutaneous, or intramuscular, is called AWE. Its treatment options include excision of the lesion and/or hormonal therapies or ultrasound-guided ethanol injection (sclerotherapy), but wide surgical excision is the treatment of choice in the literature, although it may create a defect in the abdominal wall and may increase the risk of hernia formation. This case report describes the clinical and radiological findings and treatment modalities of endometriosis that has appeared in the subcutaneous tissue with rectus abdominis muscle involvement in a 35-year-old patient at the caesarean scar level.

Keywords: Abdominal wall, Endometriosis, Desmoid tumour, Fine-needle aspiration cytology

INTRODUCTION

Endometriosis was first described in 1860 by an Austrian pathologist, Karl Freiherr von Rokitansky, who referred to the disease as adenomyoma. It is defined as an oestrogen-dependent, benign inflammatory disease characterised by the presence or growth of endometrial tissue outside the uterine cavity. It occurs in 5–10% of all women. Abdominal wall endometriosis (AWE) is a rare condition that occurs after a caesarean section or pelvic surgery, and it has an incidence of 0.03–1.5% in women with previous caesarean delivery.[1] The most common sites of endometriosis, in decreasing order, are the ovaries, anterior/posterior cul-de-sac, broad and uterosacral ligaments, fallopian tubes, sigmoid colon and appendix. AWE, being a rare entity, is a benign tumour defined as ectopic functional, endometrial tissue located in the abdominal wall.[2] The disease is characterised with the triad of mass in the abdominal wall, periodic pain associated with menses and a history of abdominal surgery. Its differential diagnosis includes lipoma, granuloma, fibroma, desmoid tumour, incisional hernia, lymphoma and primary and metastatic cancer. Medical management (non-steroidal anti-inflammatory drugs, oral contraceptives and gonadotropin-releasing hormone agonists and aromatase inhibitors) has been the first line of treatment. However, as it is rarely seen by general surgeons, it is often diagnosed on histological examination postoperatively; wide surgical excision being the treatment of choice in the literature.

CASE REPORT

We report a 35-year-old lady (P_2, L_2 and A_0) who presented with a swelling over the anterior abdominal wall for 4 years associated with cyclic pain. Her medical history was negative except

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for a lower segment caesarean delivery 6 years before her presentation. The pain was localised to the lower abdomen, crampy and cyclic and worsened particularly in the first 2 days of menstruation and was partially relieved by taking some analgesics. She had no history of chronic diseases, menstrual irregularities, or any abdominal or pelvic surgeries except for the caesarean section. Routine laboratory findings were in a normal range. Abdominal examination showed a hard, immobile, painful, palpable mass lesion, about 2.5 cm × 2cm, located above the lower-segment caesarean section scar in the left iliac region and a probable diagnosis of granuloma was made.

Ultrasound scan was performed, which showed a well-defined hypoechoic lesion of size 24 mm × 28 mm in the subcutaneous plane of the lower abdomen, suggestive of desmoid tumour. Given these findings, fine-needle aspiration cytology (FNAC) was performed on the patient. The smear studies showed stromal epithelial cells with orderly spaced nuclei, features suggestive of endometriosis. The patient was scheduled for elective surgery, that is wide surgical excision under subarachnoid block.

Intraoperatively, to our surprise, the lesion was found to be fixed to some fibres of the left rectus abdominis muscle, which meant that those muscle fibres involved had to be removed along with the excision of the endometrial mass.

Procedure

Subarachnoid block was given.

En bloc excision was performed for the wide surgical excision of the endometrial mass [Figure 1-2]. Since the mass was found to be adhered to the rectus abdominis muscle, a few of the muscle fibres were removed along with the mass excised [Figure 3-4]. The patient's post-operative condition was uneventful, and she was discharged on the post-operative

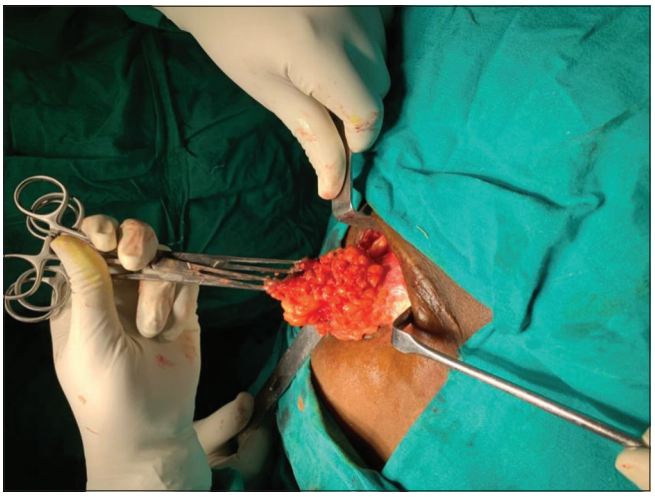

Figure 2: Intraoperative image showing the endometrial mass.

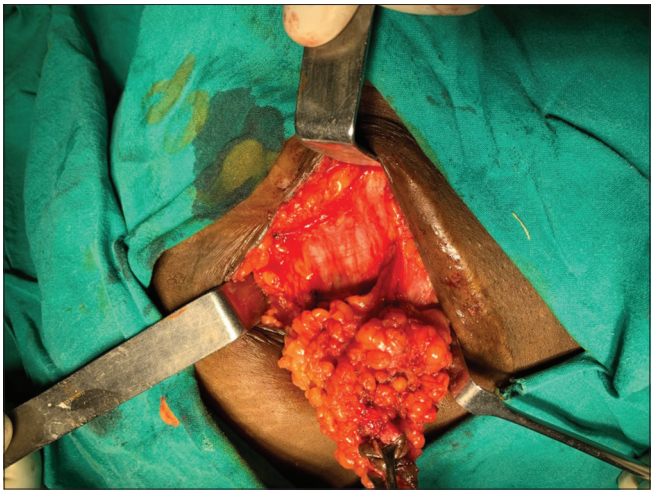

Figure 3: Intraoperative image showing the involvement of rectus abdominis muscle fibres.

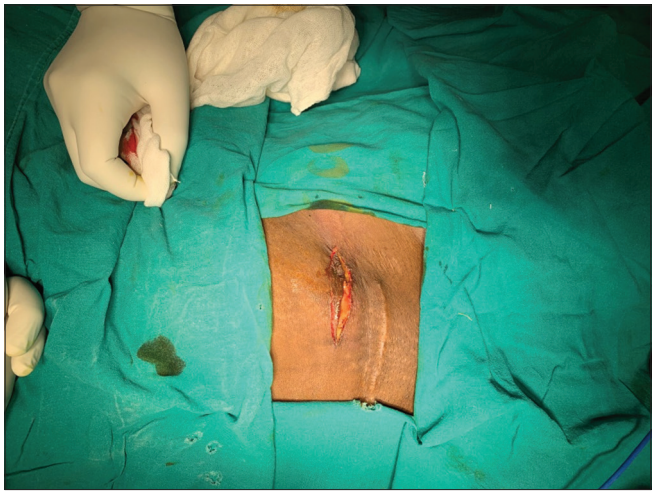

Figure 1: Pre-excisional image of endometriosis.

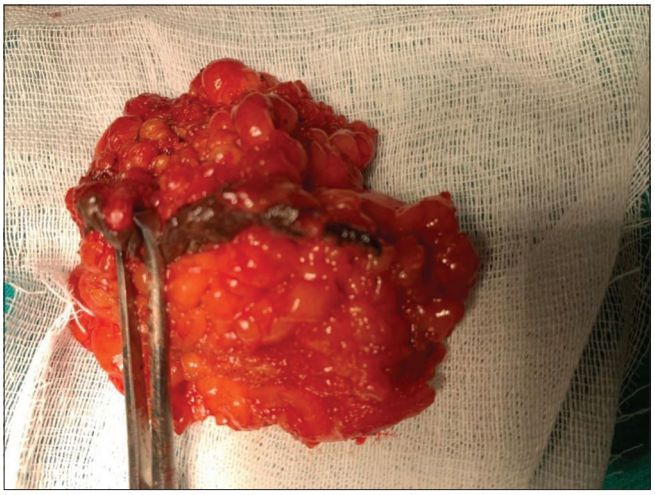

Figure 4: Image showing the excised endometrial mass.

day 2 with an advice of oral administration of Tablet Danazol 100 mg BD for 3 months to prevent recurrence. She was followed up at our outpatient department 1 week later and the surgical area looked healthy with no signs of site infection. Pathology revealed the presence of endometrial stromal cells in singles and clusters with benign epithelial cells in broadsheets and clusters.

DISCUSSION

The AWE is an uncommon site of extrapelvic endometriosis, with involvement of rectus abdominis muscle fibres being quite rare. The differential diagnosis for AWE includes lipoma, granuloma, desmoid tumour, hematomas and benign as well as malignant tumours. Different pathophysiological theories concerning the origins of endometriosis have been proposed, including the implantation of reflux, direct extension, coelomic metaplasia (claiming that endometriosis develops from metaplasia of peritoneum), iatrogenic direct implantation (suggesting that sloughed endometrium results in endometriosis), embryonic rest (claiming a specific stimulus to a Mullerian origin stem cell nest produces endometriosis) and lymphatic and vascular metastasis.

AWE can also arise in a male from the prostatic utricle, which is a remnant of the uterus from the time when the male and female urogenital systems in the embryo are separated between the 8th week and the 4th month.[3]

AWE is associated with certain risk factors. The first risk factor, and the most common one, is a previous caesarean section, which is strongly supported by the theory of iatrogenic spread. Furthermore, the other risk factors include an early hysterotomy in pregnancy, increased menstrual flow and alcohol consumption. High parity has been shown to be a protective factor against AWE.[4]

The clinical presentation of AWE is varicoloured. The most common symptoms include mass sensation, pain, bleeding, dysmenorrhoea and dyspareunia. Some patients may be asymptomatic, that is painless palpable mass. Palpable mass presents in 96% of patients.

Patients with endometriosis in a surgical scar are often referred to general surgeons due to clinical suspicion of incisional hernia. Radiological examination of this endometrial lesion is also non-specific, ultrasonography showing hypoechoic inhomogeneous texture in subcutaneous tissue, indicating desmoid tumour, lipoma or granuloma. AWE cannot be diagnosed purely clinically or radiologically. Thus, an FNAC becomes necessary.

Fine-needle aspiration cytology can be a reliable diagnostic tool for the evaluation of subcutaneous AWE. It can detect the presence of endometrial glands, endometrial stroma and hemosiderin pigment so that hormonal therapy can be initiated, thereby avoiding unnecessary surgery in selected cases.

Several treatment options have been reported, including pharmacological and surgical treatment. Medical treatment with the use of progestogens, oral contraceptive pills and danazol is not effective and gives only partial relief in symptoms and does not ablate the lesion. Moreover, due to side effects such as amenorrhoea, weight gain and hirsutism acne, compliance is unlikely. The definite treatment of AWE and the gold standard is wide surgical excision. Moazeni-Bistgani recommends either irrigation of the wound with high-jet saline solution before wound closure or repair of the peritoneum at the time of caesarean section as a preventive measure.[5]

The rate of recurrence of AWE after surgical excision is varied. The studies have reported recurrence in 7.7%, to 9.1% of cases. Few studies have shown less recurrence that is 4.3%. The most significant complication of AWE is malignant transformation, which is likely to occur in 0.3–1% of cases. The principal risk factors of malignant transformation of endometriosis include the advanced age of the patient, if they are menopausal, and if the tumour diameter of an endometriotic lesion is >9 cm.[6]

Post-operative follow-up with a gynaecologist is recommended since concomitant pelvic endometriosis may be encountered in patients with AWE in a surgical scar. Cancer antigen (CA) 125 determination, a marker found on the derivatives of coelomic epithelium, may be useful in predicting the presence and recurrence of endometriosis.

CONCLUSION

AWE is a very rare condition. Although AWE cannot be diagnosed clinically and radiologically, it should not be ignored in the differential diagnosis of mass per abdomen, especially in women with a history of previous caesarean section.

Ethical approval

The Institutional Review Board approval is not required.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

Dr. S. Y. Mulkipatil is on the Editorial Board of the Journal.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the

writing or editing of the manuscript and no images were manipulated using AI.

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