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Case Report

Radiology Section

Role of MRI in Diagnosis of Uterine Caesarean Scar Endometriosis: A Case Report

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ABSTRACT

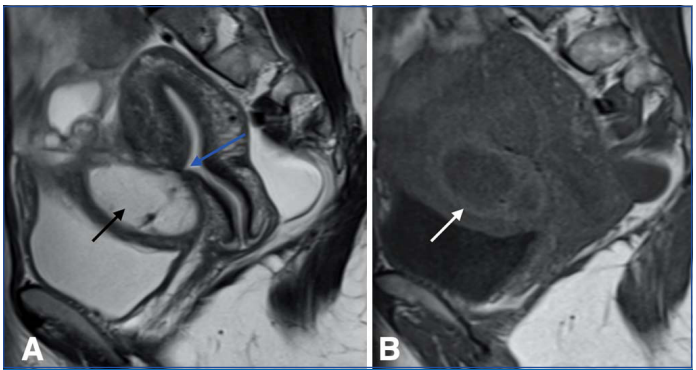
Endometriosis refers to the implantation and growth of functional endometrial tissue outside the uterus. The common sites include ovaries, pelvic peritoneum, deep pelvic subperitoneal spaces, intestinal system, and urinary system. Endometriosis of a uterine scar is extremely rare. Uterine scar endometriosis has been described in women of reproductive ages following an obstetrical or gynaecological surgery. Despite a varying range of clinical presentations, a probable diagnosis is possible with imaging modalities like ultrasound and Magnetic Resonance Imaging (MRI). Herein the authors report a case of 26-year-old patient complaining of recurrent pelvic pain since five months, MRI diagnosed the scar endometrioma in the uterine wall. The patient has not undergone the advised surgical excision of lesion and has continued the medical management.

Keywords: Implantation, Magnetic resonance imaging, Pelvic pain

CASE REPORT

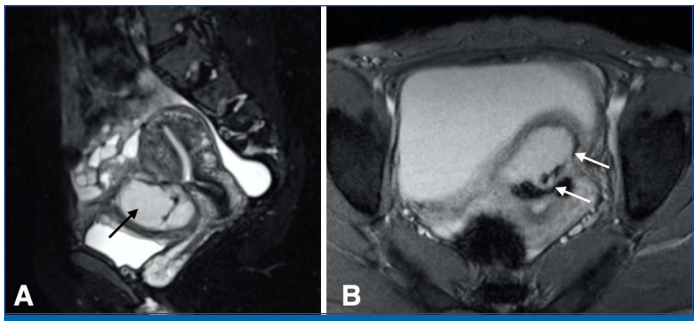
A 26-year-old female, P2L2, presented with the chief complaint of recurrent pelvic pain since five months without history of bleeding or discharge with history of previous Lower Segment Caesarean Section (LSCS) two years back. On clinical examination, the abdomen was soft, lax, and non tender with a healthy LSCS scar. Vaginal examination shows the uterus was bulky, non tender with irregular outline.

Transabdominal Ultrasonography (USG) revealed a mildly bulky uterus, and a well-defined predominantly echogenic complex mass was seen posteriorly to the urinary bladder with size of approximately 6×5 cm. The endometrial thickness was normal. Ovaries and adnexa appeared unremarkable. MRI was advised for characterization of the lesion. It showed a well-defined rounded/lobulated mass (6×5 cm), hyperintense on T2, and intermediate signal intensity on T1 projecting outward from the anterior lower uterine wall at LSCS scar's site into the ureterovesical space [Table/Fig-1]. No invasion into the urinary bladder or any other adjacent pelvic wall was seen. Blooming on T2 WI was noted in the periphery of the lesion, suggesting haemorrhagic contents [Table/Fig-2]. The ovaries appeared normal and observed to be separate from the mass. On the basis of MRI, it was diagnosed as scar endometrioma in the uterine wall.



[Table/Fig-1]: a) Large well-defined T2 hyperintense (black arrow); b) T1 hypointense lesion (white arrow) with peripheral hyperintense rim is noted anterior to uterus and small communication to uterine cavity (blue arrow).

The patient was advised for surgery but she refused it. Hence, is currently on medical management and regular follow-up. Medical treatment such as oral contraceptives, progestogens, danazol and leuprolide acetate were used for relief of symptoms without any reduction in size of the lesion. Eethinyl estradiol (20 µg/day, oral),



[Table/Fig-2]: Large well-defined STIR hyperintense; a) (Black arrow), GRE hypointense foci (white arrow) with peripheral hypointense rim; b) Noted anterior to uterus suggesting blood products.

leuprolide acetate 3.75 mg monthly injection, danazol (100 mg/oral) for three months, after liver and renal function clearance. The patient came for regular follow-up for every three months for ultrasound and medical management. During follow-up, there was no changes observed in USG from initial presentation.

DISCUSSION

Endometriosis is a chronic, benign gyaecological condition with an incidence of 10% and is seen in young women with the mean age of diagnosis of 25-29 years. These lesions are hormone dependent and can have various clinical presentations ranging from chronic pelvic pain that may or may not be cyclical, dyspareunia to infertility [1,2]. Scar endometriosis of the abdominal wall is an uncommon entity that is probably on the rise following various obstetrical and gyaecological procedures [3,4].

Scar endometriosis is caused by implantation of endometrial stem cell at surgical site during uterine surgery [5]. Abdominal scar endometriosis has a reported incidence of 1.08-2% after hysterectomy and 0.03-0.4% after caesarean section [6,7]. It has been reported to be between 0.03% and 1.7% [8]. The uterine wall scar endometriosis is very rare and less data available regarding its incidence.

The USG method is a good modality to detect the endometriosis of the ovary, urinary bladder, or rectum. Because of its high spatial resolution, MRI shows specificity and sensitivity of 91-98% and 90-92% [9]. It also provides essential information about the surrounding structure's infiltration and helps in providing a roadmap to the surgery.

In the present case report, using MRI, it was diagnosed as scar endometrioma of the uterine wall. MRI reported large well-defined T2 hyperintense, and T1 hypointense lesion with peripheral hyperintense rim observed anterior to uterus and small communication to the uterine cavity. Kafkasli A et al., reviewed histopathology of hysterectomy samples duting seven years, and observed two cases of endometriosis in uterine wall [5]. Lahiri AK et al., reported a 42-year woman with intermenstural bleeding and pelvic pain for six months after two previous LSCS. USG examination shows bulky uterus with heterogenous myometrial echotexture. Computed Tomography (CT) scan shows heterogeneous enhanced nodular masses of lower uterine region. Finally, histopathology diagnosed as endometriosis of the uterine scar [10].

Khachani I et al., reported a 37-year-old with subcutaneous oval mass sized 80×35 mm, with 2 mm skin orifice at the center of the mass. Surgical wide en bloc excision was performed, and no recurrence observed during the 24 months follow-up [11]. Ramdani A et al., study reported two cases, in which a 41-year-old female ultrasonography revealed a subcutaneous right paramedian mass of 7×3 cm was attached to the rectus abdominis muscle. The patient was diagnosed with parietal endometriosis and underwent omentoplasty procedure, and shows no recurrence after four year follow-up. Another case of 31-year-old female MRI diagnosed subcutaneous mass of the left lateral pelvic wall, with spiculated contours of 28×23 mm [12].

Sharma HK and Prashar S reported a 28-years-old female with swelling at left angle with previous LSCS pfannenstiel scar. USG of lesion measured 2.6×1.5.×0.15 cm at the pfannenstiel scar which predominantly hypoechoic with areas of hyper echogenicity within. Patient underwent surgical excision of swelling with margins of 1 cm. Histopathology diagnosed it as scar endometriosis, and the patient came for a follow-up upto six months, and did not report any recurrence of swelling [13].

To prevent recurrence, a surgical excision with 1 cm margin should be performed, in addition to neighboring structures such as fascia or muscle, being excised. Hence, the transplantation of microscopic endometrial tissue residuals can prevent the recurrence of endometriosis in the wound area [14]. But in the present case, no surgery was performed as patient's self refusal to surgery. In a case series of five patients, the mass was invaded the peritoneal surface, and the large defect area was formed on the abdominal wall after the surgery supported with Prolene mesh [14,15].

CONCLUSION(S)

Uterine scar endometriosis is a rare presentation in pelvic endometriosis. MRI played crucial role in diagnosing endometriosis with specific signal characterization by detecting blood products within the lesion.

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