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Case Series

A case series of scar endometriosis: a mysterious painful scar

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ABSTRACT

Endometriosis is the presence of endometrial tissue outside the uterine cavity. Scar endometriosis, one of its rare variants, is the study of interest since most of the patients present to the general surgeon rather than to a gynaecologist due to its quite often non-specific symptoms. In this case series of 5 patients, 2 of the patients had presented to the general surgery department, one presented with non-specific symptom. Prior history of any obstetric (caesarean section in particular) and gynaecological surgeries must be elicited which may help in clinching towards the diagnosis. This report is about a case series of 5 patients who had variable presentations and were offered wide local excision. Diagnosis was confirmed with post-operative histopathology. The pathogenesis, treatment and prevention have been discussed.

Keywords: Caesarean section, Endometriosis, Wide local excision

INTRODUCTION

Endometriosis is described as the presence of functioning endometrial tissue outside the uterine cavity. Pelvic sites such as ovaries, posterior cul-de-sac, uterine ligaments, pelvic peritoneum, bowel and rectovaginal septum are the common sites.[1] At sites outside the pelvis, endometriosis is rare and it affects between 8.9 to 15% of reproductive age women.[2] Of them, scar endometriosis is a rare entity of abdominal wall endometriosis with incidence of about 0.07 to 0.47% and difficult to diagnose due to nonspecific symptoms.[3]

Patient usually presents with painful nodule in a parous woman with a history of gynaecological or obstetrics surgery. The intensity of pain and size of nodule changes with menstrual cycle.[1] Diagnosis can be made by either invasive or non-invasive methods. Medical management can be used to reduce the size of the lesions. However, excision of the lesion in-toto is the treatment of choice and post-operative histopathological examination confirms the diagnosis. This article is a retrospective, observational descriptive study of 5 cases who underwent treatment for scar endometriosis at our institution between January 2023 and December 2023. For each patient we reviewed history, characteristics, clinical presentation, diagnostic methods, nodule size and location, type of surgery and recurrence. All women who underwent resection of the lesion provided written informed consent for surgical management of the disease.

CASE SERIES

We reported 5 cases of scar endometriosis. Median age of the patients was 30 years (range 25 to 35). Two of the patients had scar site pain and had initially presented to the surgery outpatient department. These patients were initially under suspicion of scar site granuloma since they had history of Lower Segment Cesarean Scar (LSCS). Of them Fine Needle Aspiration cytology (FNAC) had been done in one of the patients and found to be scar endometriosis.

On probing proper history both the patients had increased scar site pain during menstruation and were referred to obstetrics and gynecology department. Two other patients

had lower abdominal pain and were evaluated at surgery OPD through ultrasound imaging and were referred to Obstetrics and Gynecology. Another patient presented with history of abnormal uterine bleeding and was incidentally found to have scar endometriosis on routine imaging. They were evaluated with baseline investigations and imaging.

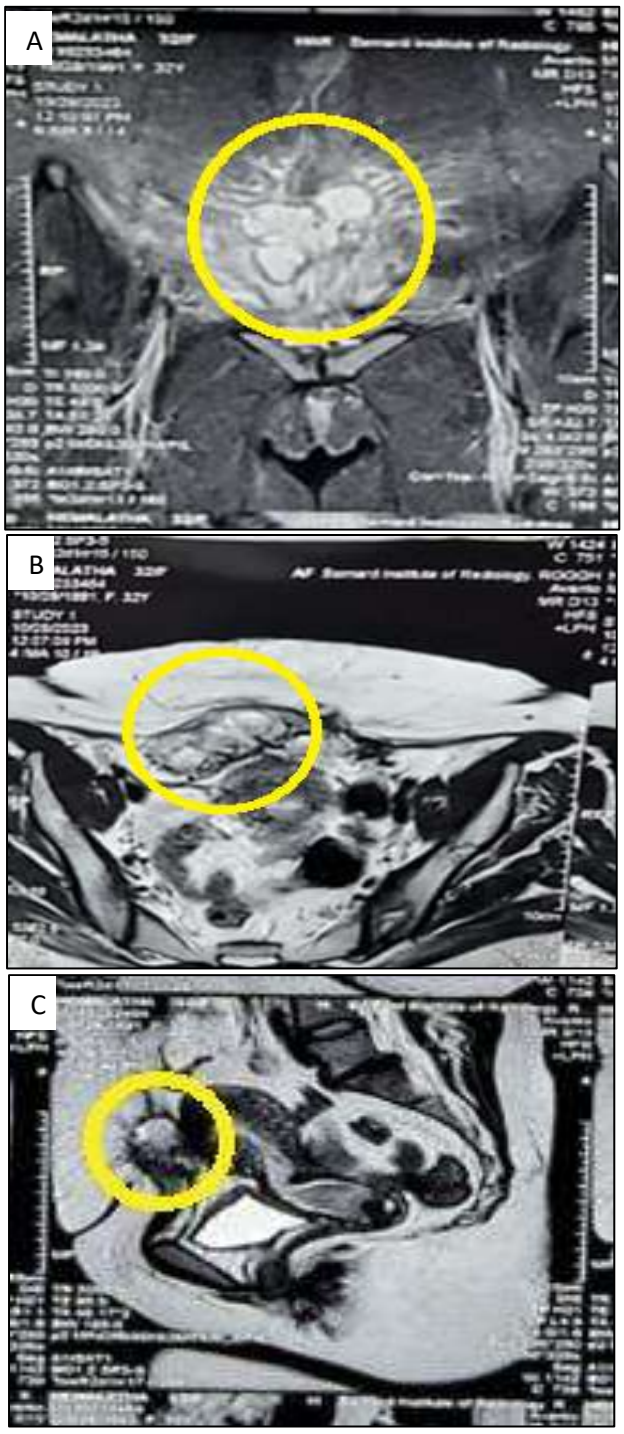

Figure 1 (A-C): MRI showing relatively well defined multiloculated cystic lesion (5.5×2.3 cm) with blood fluid level in rectus sheath extending posteriorly into myometrium which shows peripheral enhancement on contrast administration.

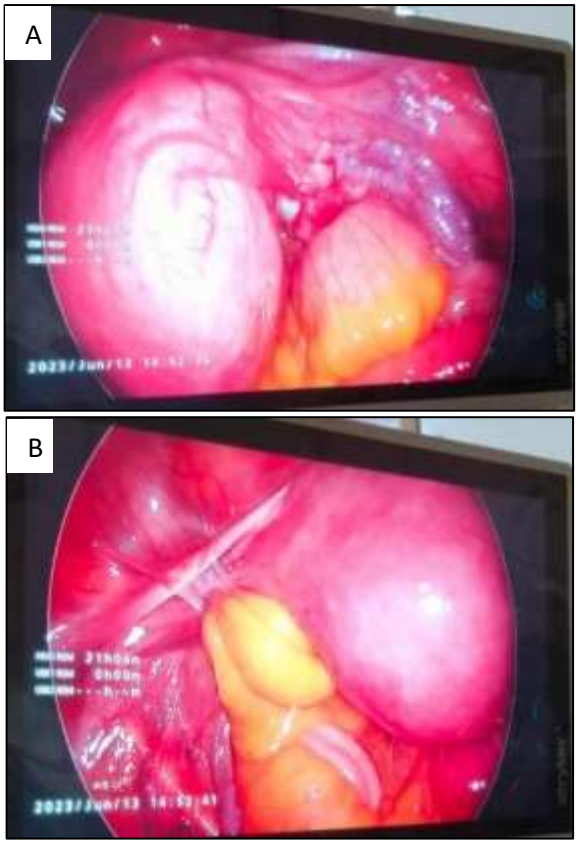

Figure 2 (A, B): Diagnostic laparoscopy performed to demonstrate adhesions and co-existence of pelvic endometriosis.

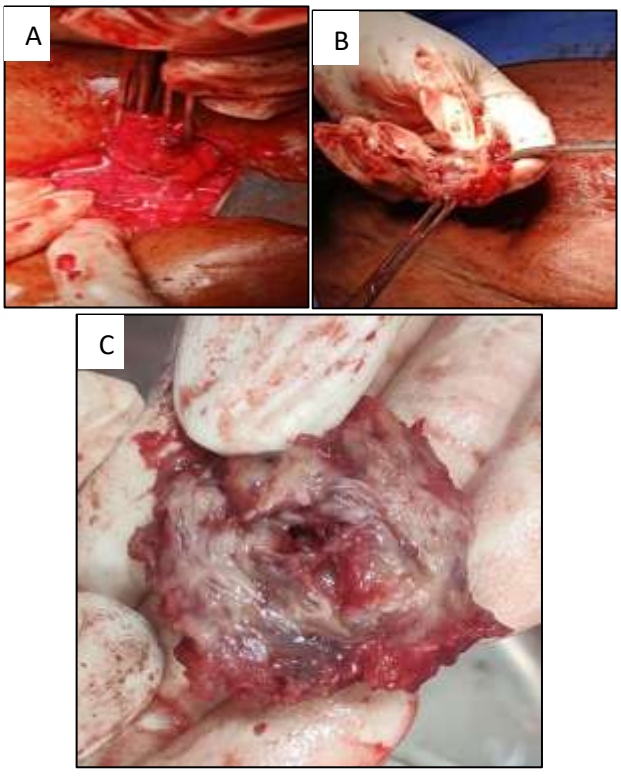

Figure 3 (A-C): Excised endometrial tissue with collections mimicking endometrial cavity.

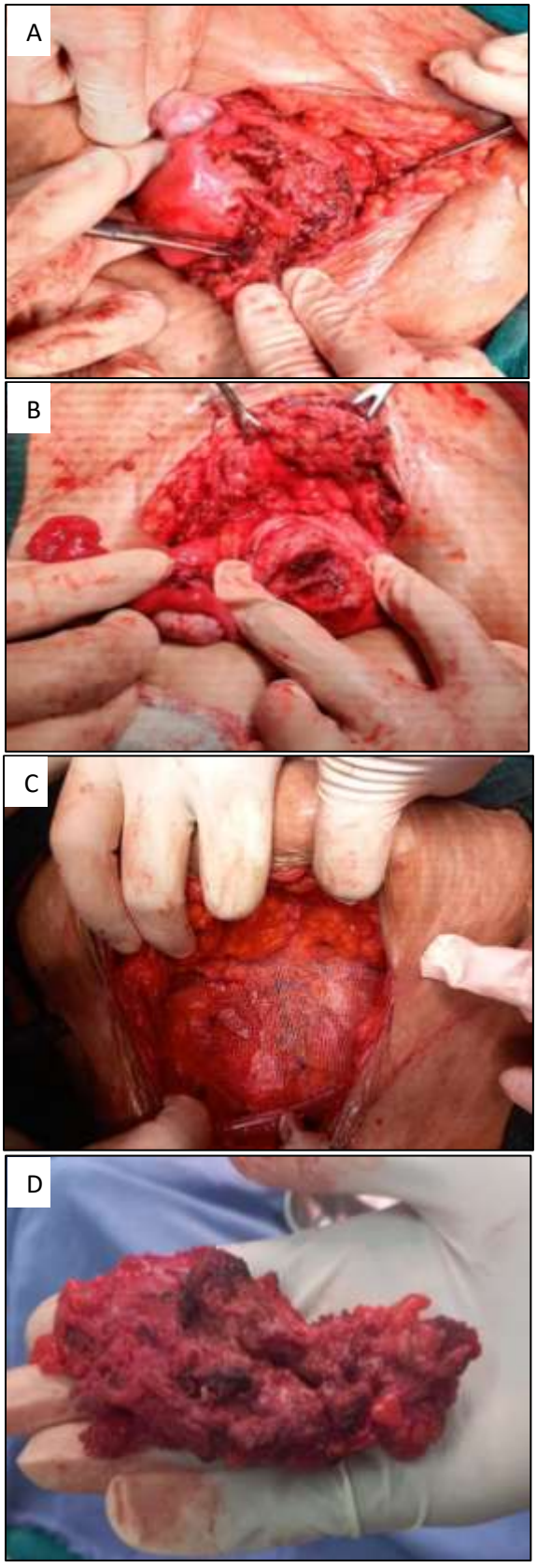

Figure 4: (A) Endometriotic mass seen extending up to the uterus, (B) Uterine rent seen after excision of the mass, (C) Rectus sheath closure done with mesh repair, (D) The large endometrial tissue that was excised.

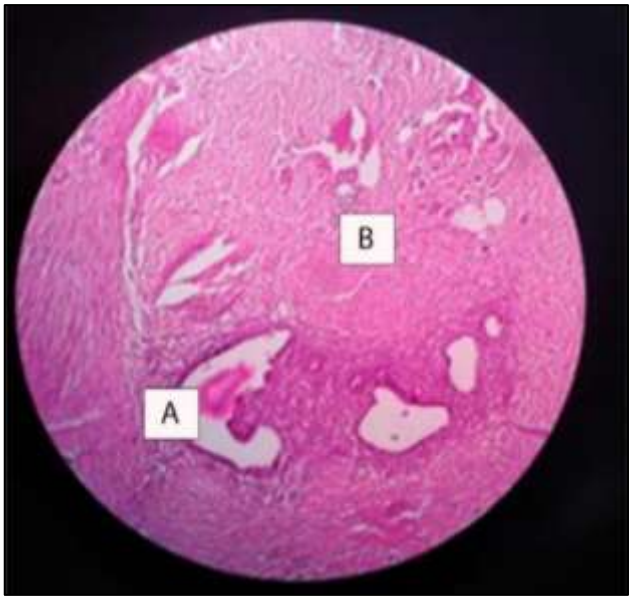

Figure 5: Histopathological image (A) Endometrial glands, (B) Stroma.

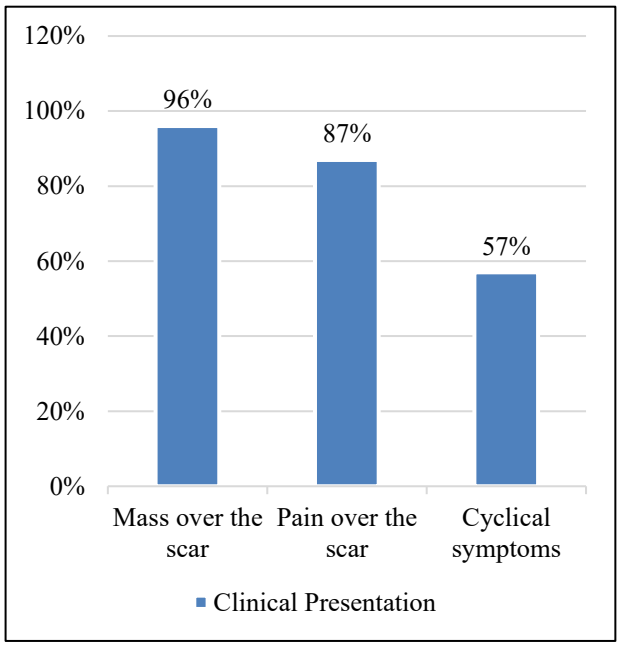

Figure 6: Clinical presentation.

Diagnosis was made with FNAC in one patient, ultrasound imaging in 3 patients and Magnetic Resonance Imaging (MRI) in one patient. MRI of the particular patient showed possibility of communication of the mass with uterine scar. All the patients underwent diagnostic laparoscopy and excision biopsy. Intraoperatively one of the patients had a fistulous tract communicating with the uterine cavity for which excision of scar tissue and tract with uterine repair was done. Post operative histopathology reports turned out to be endometriosis of the scar. Patients were discharged on 5th post operative day and were followed up post-operatively and none of them had recurrence. They were symptom free after the procedure.

Table 1: Clinical presentation of the case series.

S. no	Age (in years)	Pain in scar site	Cyclical pain	Duration of symptom	Previous procedure history	Firm nodule	Progressive enlargement	Duration of surgery to symptom onset
1	34	Yes	Yes	2 years	2 LSCS	Yes 2×2 cm	Yes	5 years
2	28	Yes	Yes	1 year	2 LSCS	Yes 2×1 cm	Yes	4 years
3	25	Yes	No	3 years	2 LSCS	Yes 3×2 cm	Yes	3 years
4	31	Yes	No	4 years	2 LSCS	No	-	1 year
5	33	Yes	Yes	5 months	2 LSCS and One D and C	Yes 4×5 cm	Yes	5 years

DISCUSSION

Several mechanisms have been postulated for the pathology of scar endometriosis. One such hypothesis is believed to be due to the iatrogenic mechanical implantation of endometrial tissues into various layers of abdomen including the subcutaneous tissue.[4,5] These tissues under the influence of estrogen and other growth factors undergo proliferation to become endometriotic lesions.[6,7] Another hypothesis explains that diminished natural killer cell immunity causes decreased clearance of endometrial cells from the peritoneum thereby leading to the disease.[8] According to Wang et al the possible mechanism by which a hysterotomy can lead to endometriosis is due to the easy separation of endometrial cells along with the amniotic fluid that flows into the pelvis after the hysterotomy incision.[9] These get trapped at the incision site and under the influence of hormones are capable of growing into a subcutaneous mass. Also, it is postulated that there is increased incidence after early hysterotomy rather than a term or near-term cesarean section as early decidua seems to have more pluripotential capabilities and can result in enhanced cellular replication producing endometriosis.[3,10]

Patients with scar endometriosis usually have a history of either obstetric or gynaecologic surgery. The most common obstetric surgery is cesarean section while the gynecological surgeries include hysterectomy, cystectomy for ovarian cysts and tubal ligation. All of the patients had history of cesarean section. It can even occur following amniocentesis.[11] According to Goel et al one of their patients had the endometriotic nodule in the episiotomy scar site.[12] The patients usually present with scar site pain and mass which increases in intensity and size respectively during menstruation under the influence of estrogen. They are often misdiagnosed as stitch granuloma, abscess, sebaceous cyst, lipoma, fat necrosis or an incisional hernia. Diagnosis can be made by FNAC. With increasing use of FNAC of palpable and deep- seated lesions, it may not be uncommon in cytologic practice to encounter cases of endometriosis and FNAC can be a useful, non-invasive and diagnostic method to render such diagnoses.[13] In our series, only one patient was diagnosed using FNAC. Ultrasound can also be done which can show features like a hypoechoic inhomogeneous echo texture with internal scattered hyperechoic echoes, regular margins, often spiculated, infiltrating the adjacent tissue; and a hyperechoic ring of variable width and continuity according to Francica et al MRI is performed to know the extent of the lesion.[14] MRI may show a iso to high intense signal and allows evaluation of relationships with neighbouring structures and planning of multidisciplinary management for abdominal wall reconstruction. MRI of one of our patients showed possibility of communication of the mass with uterine scar. Histopathologic examination from the excised tissue confirms the diagnosis which demonstrates the presence of endometrial glands and stroma embedded within fibroblasts, collagen fibers and skeletal muscle cells, with or without hemosiderin laden macrophages.[15]

Wide excision with at least 1 cm margin is considered as the treatment of choice.[16] However, Multidisciplinary management with cooperation between the general surgeon and gynaecologist should be the rule, especially when a large area of fascia is involved and mesh repair is required.[17] Diagnostic laparoscopy should be preferred to be performed in selected cases of scar endometriosis entity in order to rule out adhesions and have a clearcut view of the extent of the lesions.[17] A synthetic mesh can be used to close the defect, if any, that is present. In our series, the patient with MRI finding of possibility of communication of the mass with uterine scar had defect in rectus sheath after excision and hence a mesh was used to repair the same.

Medical therapy with GnRH agonist was proposed by Rivlin et al.[18] It produces only partial relief of symptoms and usually recurrence occurs after cessation of the treatment. Reports have suggested the intralesional injection of goserelin prior to surgical excision for reduction of lesion size.[19] Prevention of endometriosis has become pivotal with increasing number of cesarean sections. This can be done by following good surgical techniques like instrument and needle replacement when suturing more superficial abdominal layers in order to avoid iatrogenic inoculation of endometrial cells.[20,21] Picod et al recommended thorough irrigation of the surgical incision site and pelvic cavity with saline prior to closure of the abdominal wall.[22] Nigam et al suggested to

use separate sponges for cleaning the uterine cavity and skin wound.[21] Endometrium should be excluded during hysterorraphy.[17] It is preferable to close the visceral and parietal peritoneum in order to prevent endometriosis.[23] For laparoscopic gynecological surgeries, an endobag can be used for retrieving the specimen.

CONCLUSION

With increasing number of cesarean sections, it is necessary to follow good surgical techniques for preventing scar endometriosis. Diagnostic laparoscopy can be preferred so as to rule out the adhesions and extensions. Due to the increased chances of recurrence adequate clearance following surgery must be ensured and patients should be followed up regularly.

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