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Case Report

Abdominal wall endometriosis in the caesarean section surgical scar- a case report

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ABSTRACT

Scar endometriosis is the presence of endometrial tissues with glands in the previous incision or scar. Its overall estimated incidence after post-caesarean and post-hysterectomy is 0.03-0.4% and 1.08-2%, respectively. The patient presents with non-specific symptoms such as cyclical abdominal pain at the site of a previous surgical incision and an abdominal lump with a cyclical increment in size, which is tender. The diagnosis is made only after the surgical excision with confirmation by histopathological analysis. We present the case of a 30-year-old P2 L2 complaining of cyclical abdominal pain and a lump on the right side of a Pfannenstiel incision. She had undergone two lower segment caesarean sections (LSCS); the last surgery was five years ago. She conceived and at 38.2 weeks an elective caesarean with concurrent sterilisation and excision of scar endometriosis with mesh repair was done. After the surgical excision, the sample was sent for histopathological examination, and scar endometriosis was confirmed.

Keywords: Scar endometriosis, Pfannenstiel incision, LSCS, Abdominal wall endometriosis, Excision, Endometrioma, Mesh repair

INTRODUCTION

Endometriosis is the presence of functioning endometrial glands and stroma outside the uterine cavity. Pelvic endometriosis is a common condition encountered by gynaecologists and infertility specialists. But extra pelvic endometriosis in distant sites such as urinary bladder, umbilicus, gastrointestinal tract and thoracic cavity is rare. Scar endometriosis occurs due to iatrogenic implantation of endometrial tissue during uterine procedures and nonuterine procedures. The incidence of scar endometriosis after caesarean section has been reported to be 0.03-0.4%.[1] There are case reports of scar endometriosis following vaginal delivery in episiotomy site, laparotomy for hysterectomy, tubectomy, ectopic pregnancy surgeries, appendectomy, hernia repair sites, and even in the needle tract after amniocentesis. General surgeons, plastic surgeon or gastro-surgeons have to be aware of this condition. The association of clinical symptoms with the menstrual cycles should clinch the diagnosis, and the awareness together with strong clinical suspicion help us to diagnose and treat scar endometriosis.

CASE REPORT

Thirty-year-old P2l2 referred to our gynaecology outpatient in the month of October 2020, with chief complaints of swelling and pain Right edge of the previous caesarean scar, with dull aching, constant pain at the site of swelling and positive association with the menstrual cycle. There was no complaint of discharge or bleeding from the scar.

USG shows a hetero- echoic predominantly hypoechoic anterior abdominal wall lesion of 2.2×2.2×2.7 cm (AP×TR×CC) noted in the Right iliac fossa, cranial to the lateral

end of caesarean scar in the transverse abdominis plane with irregular margins and few internal echoes. No internal vascularity on colour doppler.

MRI showed soft tissue intensity lesion appearing isointense with rectus abdominis muscle in all pulse sequences and forming a bridge between posterior surface of rectus muscle and anterior surface of the uterus.

She conceived with LMP -29/07/2021, G3 P2L2, with two previous LSCS LCB-five years ago. Antenatal period was uneventful except for mild anaemia. At 34 weeks, the lesion sized 4.1×2. 0 cm (comparatively slight increased than previous size).

Elective caesarean at 38.2 weeks with concurrent sterilisation and scar endometriosis excision with mesh repair was performed with the assistance of surgeon on 27/04/2022.On opening the abdomen, dense adhesions were seen involving the rectus sheath and anterior abdominal wall. Lower segment scar thinned out and a live active, term un -asphyxiated female baby of weight 3550 gm. Uterus closed in layers. Endometriotic deposits noted all over posterior uterine surface and POD. Brownish, bluish mass of 5×5 cm, at the right extreme side of the Pfannenstiel caesarean scar at the level of rectus abdominis with firm consistency, and restricted mobility (Figure 1 A and B). A probable diagnosis of scar endometriosis was made. Right lateral scar site palpated. Wide excision of the endometriotic tissue was done with 1 cm clearance and On-lay mesh of 10×15 cm was fixed with 2-0 prolene. with the placement of subcutaneous drain. She was discharged on 02/05/2022 and post op period was uneventful.

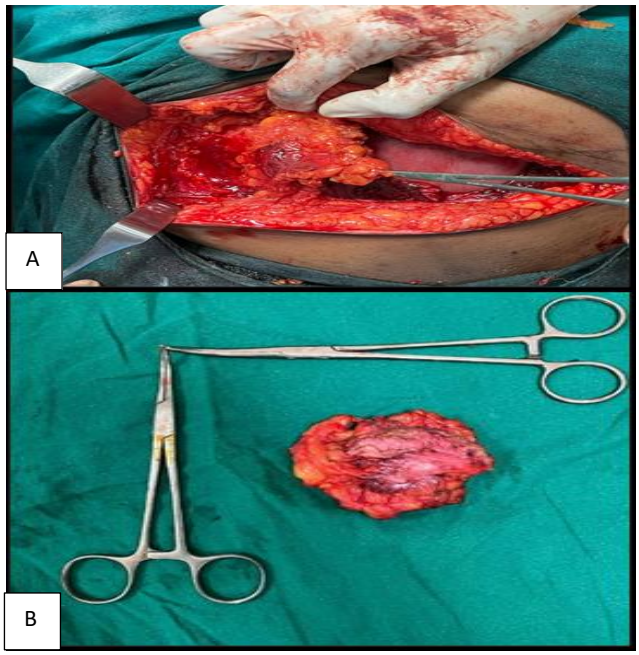

Figure 1 (A and B): The abdominal wall endometrioma excision, wide excision done and on-lay mesh was placed to make up the defect in the muscle and sheath created by wide excision.

Grossly, endometriosis may present as small, dark red, black or bluish cysts or nodules, white if atrophic on the surface of peritoneal and pelvic organs (Figure 2).

Figure 2: Slit like atrophic endometrial glands surrounded by pseudo-decidualised stroma (10X).

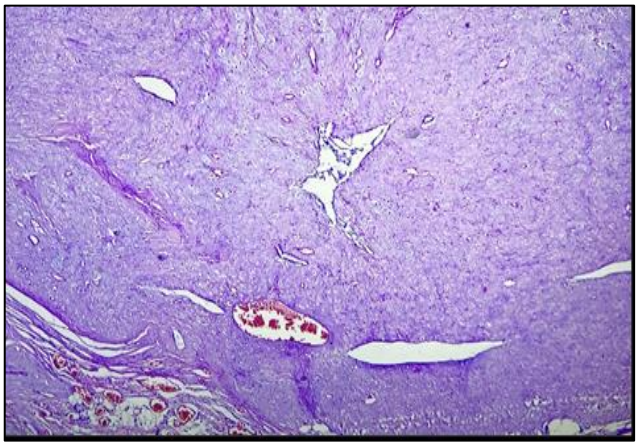

Figure 3: Slit like atrophic endometrial glands surrounded by pseudo-decidualised stroma (40x).

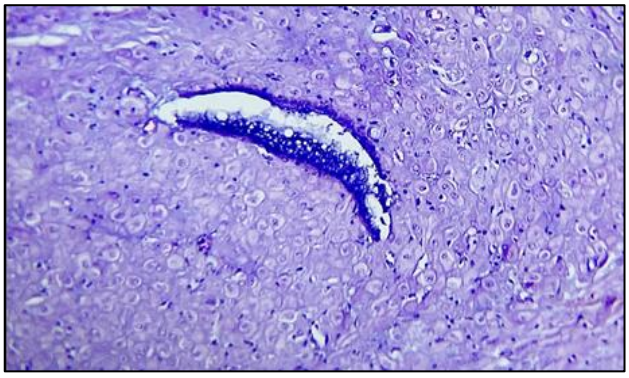

Figure 4: Slit like atrophic endometrial glands surrounded by pseudo-decidualised stroma.

Histopathological findings confirmed the diagnosis of scar endometriosis.

Histopathology haematoxylin and eosin photomicrograph showing tissue surrounding benign dilated endometrial

glands and spindled stroma consistent with endometriosis (Figure 3). In many cases, this diagnostic triad is not present, or haemorrhage, foamy cells, and hemosiderin-laden macrophages may obscure glands and stroma. When this occurs, diagnosis may be suggested but histological confirmation may not be possible (Figure 3 and 4).

Ill-defined hypoechoic or hetero- echoic lesions were found in the USG. With ultrasound, a scar endometrioma can occur as a fixed solid / cystic or nodule depending on the amount of glandular and stromal component (Figure 5 A) On MRI, there will be hyperintense heterogenous signal intensities on t1 and t2 images indicative of haemorrhage in glands (Figure 5 B).

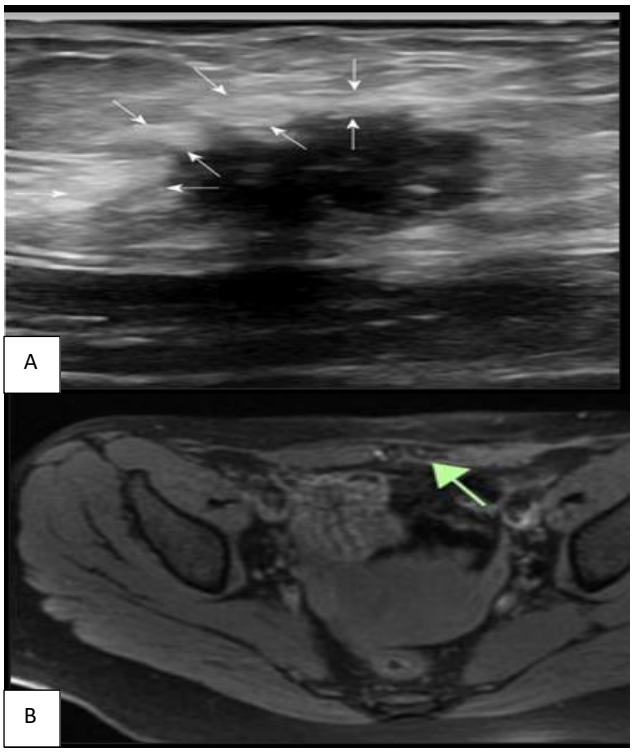

Figure 5 (A and B): ILL defined hypoechoic or hetero-echoic lesions were found in the USG. On MRI, there will be hyperintense heterogenous signal intensities on t1 and t2 images indicative of haemorrhage in glands.

DISCUSSION

Endometriosis is defined by the occurrence of endometrial-like epithelium and stroma outside the uterine cavity. This condition is commonly seen in females of reproductive age scar endometriosis is accepted to be formed through the iatrogenic auto-transplantation of endometrial cells during surgery.[2-4] It can be hypothesised that the popularisation of single layer closure of uterus and non-closure of parietal and visceral peritoneum may be an attributing factor. There are case reports of scar endometriosis following vaginal delivery in episiotomy site, laparotomy for hysterectomy, tubectomy, ectopic pregnancy surgeries, appendectomy, hernia repair sites, and even in the needle tract after amniocentesis and laparoscopic trocar tracts.[5-7]

Caesarean scar endometriosis (CSE) is the most common abdominal wall endometriosis, with estimated incidence of 0.03-0.4%.[8,9] Under proper hormonal influence endometrial tissue proliferates and leads to CSE. Additionally, surrounding primitive pluripotent mesenchymal cells may undergo specialized metaplasia to form CSE.[10-12]

Affecting an estimated 89 million women of reproductive age worldwide, endometriosis occurs in 5% to 10% of all women, often resulting in debilitating pain and infertility.[13]

The symptomatology varies from scar site cyclical pain, noncyclical pain, purplish or brownish coloured swelling or tender swelling at the scar site, bleeding from the swelling and dysmenorrhoea. Majority of the patients have cyclical pain and swelling at the scar site. Mass lesion at the scar site which is gradually increasing in size associated with skin discoloration may or may not have cyclical periodicity. However, presence of cyclical periodicity is pathognomonic.[14] Left side of the Pfannensteil scar was involved slightly more than right side.[15] On physical examination, many patients show mobile and immobile nodular skin changes. So, the diagnosis is entirely based on a high index of suspicion with proper history-taking and clinical examination.

Even though scar endometriosis may occur months and even years after gynaecologic surgery, the mean occurrence period is 30 months.[16] The mean period to develop the disease is approximately 12 months, but some cases may take as long as 21 years.

Ill-defined hypoechoic or hetero-echoic lesions were found in the USG. With ultrasound, a scar endometrioma can occur as a fixed solid/cystic or nodule depending on the amount of glandular and stromal component. The most common finding is a round or oval heterogenous hypoechoic area in the abdominal incision with surrounding hyperechoic fat. A high-resolution transducer is needed to pick up abdominal wall finding.[17]

MRI with its high soft tissue contrast is helpful in delineating between endometriotic lesion and surrounding tissue. There will be hyperintense heterogenous signal intensities on t1 and t2 images indicative of haemorrhage in glands. The fibrous component will show low intensity on t2 weighted images.[18] CT scan of the lesion will show soft tissue lesion involving rectus sheath.[19] The appearances in CT and MRI would depend on the phase of menstrual cycle, the proportion of stromal and glandular elements, amount of bleeding and surrounding inflammatory response.[20]

A recent case series study suggested that transabdominal sono-elastography may be beneficial in further delineating

surfaces, leading to more precise margin removal preoperatively.[21]

Histology examination remains diagnostic test of choice.[22]

Non-surgical

Gonadotropin-releasing hormone analogues are helpful in alleviating clinical symptoms, but it does not reduce the size of endometrioma and recurrence after the cessation of medication is common.[23]

Surgical

Wide surgical resection of ectopic endometriosis is the treatment of choice, even for repeated recurrent lesions which ensures the confirmation of diagnosis. Care should be taken during the excision so as not to rupture the mass to avoid re-implantation endometriosis.[24,25] One must be prepared for excision of considerable size of sheath and muscle and so preoperative planning for mesh placement must be done to prevent future hernia.[17] Placement of abdominal wall mesh is for reinforcement of rectus muscle and fascial defect. Recent studies also suggest the need to clean the abdominal wound with saline solution before closure especially in corner sites to prevent recurrence. Careful flushing and irrigation of the adipose layer and fascia layer during closure is critical.[11] The prognosis of scar endometriosis is good with an immediate relief of the symptoms after surgery. The most important issues to be considered during surgery is not spreading endometriosis while manipulation.[26]

Differential diagnosis of abdominal wall endometriosis includes abscess, lipoma, hematoma, granuloma, lymphadenopathy, neuroma, desmoid tumour sebaceous cyst, incisional hernia, lymphoma, sarcoma, etc.[27,28]

CONCLUSION

Scar endometriosis is the presence of endometrial tissues with glands in prev incision/ scar. To avoid unnecessary referrals, awareness of its typical clinical manifestations remains the mainstay for intervention and hence the diagnosis is entirely based on a high index of suspicion with proper history-taking and clinical examination.

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