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Case Series

Rare presentation of scar endometriosis in atypical and typical locations: a case series

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ABSTRACT

Scar endometriosis is an uncommon but well-documented entity resulting from the iatrogenic implantation of endometrial tissue into surgical scars. It is most frequently seen following caesarean section or other obstetric and gynaecological procedures and is often misdiagnosed due to its rarity and variable presentation. This case series presents patients with scar endometriosis involving both classical and unusual sites, highlighting diagnostic challenges and management outcomes. Patients with clinically and histopathologically confirmed scar endometriosis managed at Kasturba Hospital, Delhi over a two-year period were evaluated with respect to presenting symptoms, site of involvement, surgical history, diagnostic work-up, treatment, and follow-up. All patients presented with cyclical pain and swelling at or near surgical scars, with some demonstrating uncommon locations such as the episiotomy scar, umbilicus, and lateral abdominal wall. Surgical excision of the lesions with clear margins resulted in complete symptom relief in all cases. Histopathological examination confirmed the presence of endometrial glands and stroma in all excised specimens. No recurrence was observed during the follow-up period. Scar endometriosis should be suspected in women presenting with cyclical pain and swelling at or near surgical scars, particularly following obstetric or gynaecological procedures. Awareness of atypical presentations facilitates early diagnosis and effective surgical management.

Keywords: Scar endometriosis, Caesarean section scar, Umbilical endometriosis, Episiotomy scar, Surgical scar

INTRODUCTION

Endometriosis is a benign gynaecological condition characterised by the presence of functional endometrial glands and stroma outside the uterine cavity.[1] Although pelvic endometriosis is commonly encountered, extra-pelvic manifestations are rare and may involve unusual locations, including surgical scars.[2,3] Scar endometriosis is an iatrogenic form of extra-pelvic endometriosis, most frequently reported following caesarean section, with a documented incidence ranging from 0.03% to 0.45%.[4]

Clinically, scar endometriosis typically presents as a firm or nodular lesion at or near a previous surgical scar, often associated with cyclical pain, swelling, or discoloration during menstruation. These symptoms frequently lead to diagnostic confusion with other surgical conditions such as incisional hernia, suture granuloma, lipoma, abscess, or soft-tissue tumours.[5,6]

With the global rise in caesarean section rates, the incidence of scar endometriosis is expected to increase, making early recognition and accurate diagnosis increasingly important.[7] This case series describes patients with scar endometriosis involving both classical and uncommon sites, with an emphasis on clinical presentation, diagnostic challenges, and surgical outcomes.

This retrospective case series was conducted in the Department of Obstetrics and Gynaecology, Kasturba Hospital, Delhi, over two years.

Inclusion criteria

Women presenting with nodular lesions or cyclical pain at surgical scars, confirmed histopathologically as endometriosis were included.

Exclusion criteria

Patients with non-cyclical pain or other histopathological diagnoses were excluded.

Clinical evaluation included history, physical examination, and imaging (ultrasonography or MRI when indicated). Fine needle aspiration cytology (FNAC) was performed in select cases. All patients underwent surgical excision with clear margins, and excised tissues were subjected to histopathological examination

CASE SERIES

Case 1

A 39-year-old woman, G3P3A0, with a history of caesarean section 10 years ago, presented with cyclical pain at the scar for 8 years. A bluish-black, 2×2 cm keloid-like swelling developed on the lower third of her Infraumbilical LSCS scar over 6 years. The mass increased in size during menstruation and bled during periods for the last 2 years. Ultrasonography revealed a hyperechoic subcutaneous lesion, and FNAC aspirate was haemorrhagic. Scar excision was performed along with total abdominal hysterectomy for a concomitant fibroid. Histopathology confirmed scar endometriosis.

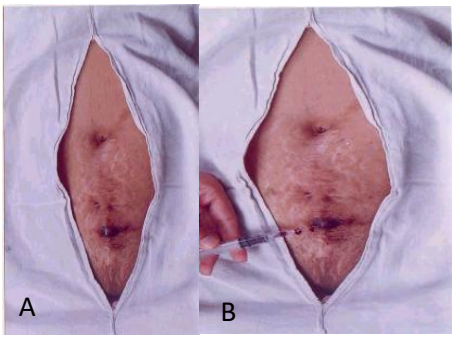

Figure 1 (A and B): Case 1 scar endometriosis at midline vertical LSCS scar, FNAC done.

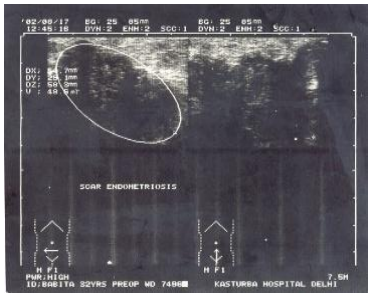

Figure 2: Case 1- USG.

Case 2

A 31-year-old woman, G2P1A1, with a previous caesarean section for antepartum haemorrhage six years prior, presented with a tender 1.5×1.5 cm subcutaneous nodule in her midline Infraumbilical caesarean scar. Pain was acyclic, and there was no bleeding. FNAC suggested endometriosis with proliferation. Wide excision was performed, and histopathology confirmed scar endometriosis.

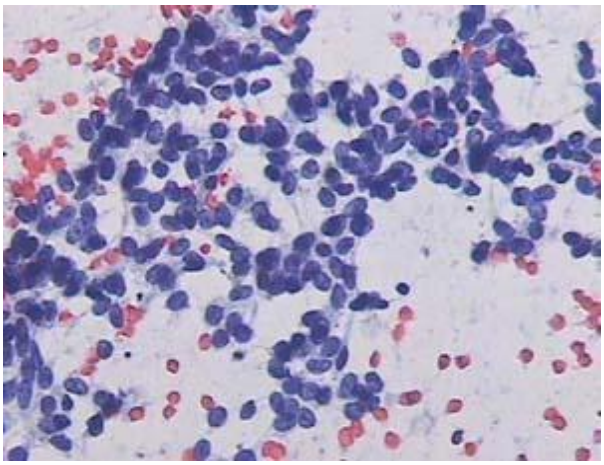

Figure 3: Case 2- scar endometriosis in subcutaneous tissue on midline LSCS and HPE on FNAC suggestive of endometriosis with proliferation.

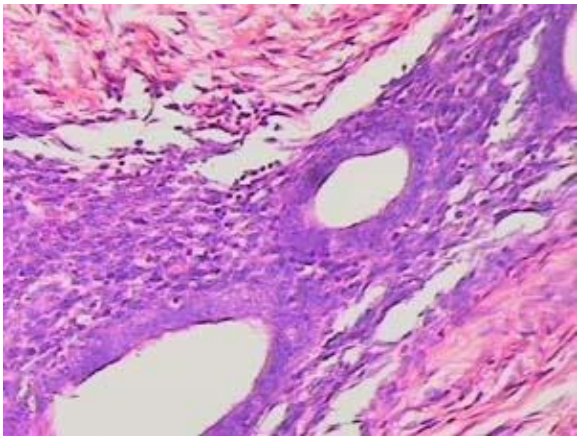

Figure 4: Case 2- HPE of excised tissue confirmed scar endometriosis.

Case 3

A 30-year-old woman, G1P1A0, presented with pain lateral to her midline infraumbilical caesarean scar for two years. Pain began two weeks before menses and subsided at menstruation. There was a 2×2 cm bluish nodule overlying the rectus sheath. Surgeon initially suspected stitch granuloma. Excision revealed endometriotic tissue, confirmed histopathologically. Patient remained symptom-free on follow-up.

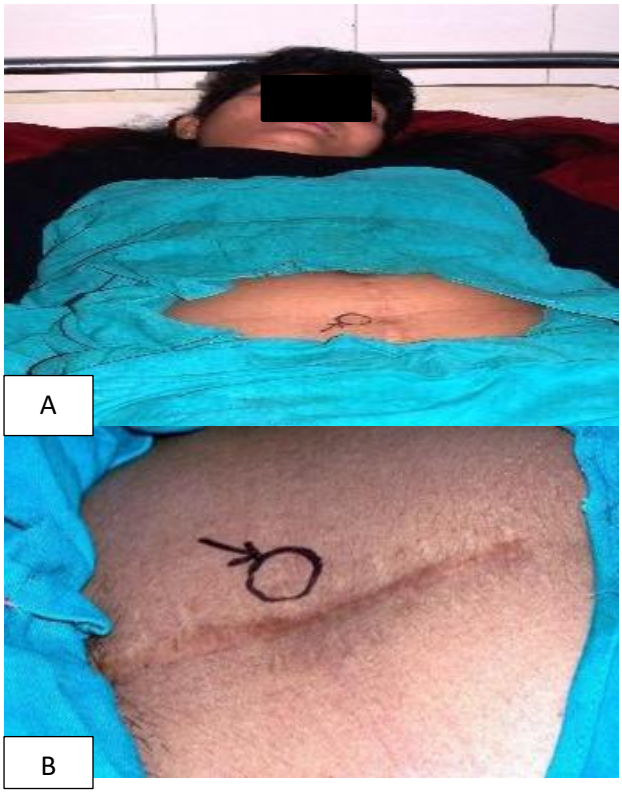

Figure 5 (A and B): Case 3- scar endometriosis lateral to LSCS scar in rectus sheath.

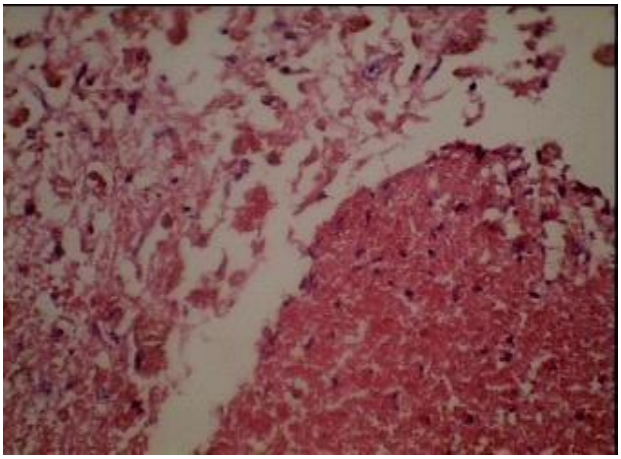

Figure 6: Case 3- HPE confirmed scar endometriosis. Cystic spaces containing blood lined with pigment laiden macrophages.

Case 4

A 32-year-old woman, G2P2A0, had cyclical severe pain in her episiotomy scar for six years, affecting sitting and walking. She had two prior full-term vaginal deliveries with episiotomy and traumatic PPH requiring uterine exploration. Conservative resection initially failed; Danazol therapy provided temporary relief. Finally, wide excision of the scar sparing the anal sphincter was performed. Histopathology confirmed perineal scar endometriosis. Patient is asymptomatic on follow-up.

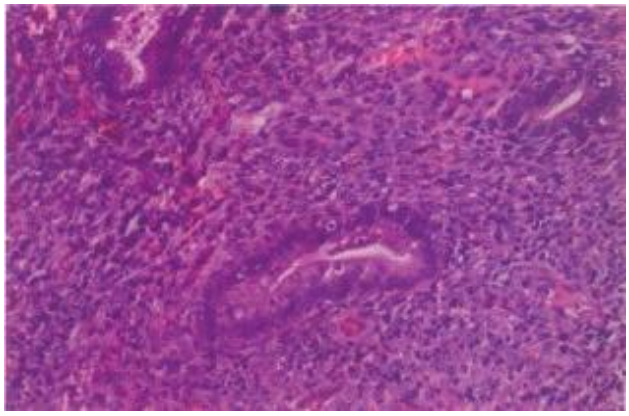

Figure 7: Case 4- Scar endometriosis at perineal/ episiotomy wound. HPE confirmed scar endometriosis. Glandular foci lined by columnar cells, surrounded by dense fibro fatty tissue admixed with siderophages, plasma cells and proliferating fibroblasts.

Case 5

A 35-year-old woman, G2P2A0, presented with an umbilical swelling and mild cyclical pain for 3 years following caesarean section. Ultrasonography revealed a 1.5×1.5 cm hypoechoic mass. Wide excision was performed, and histopathology confirmed endometriosis. Patient remains symptom-free on follow-up.

Case 6

A 29 years old woman, P1L1 came to Gynae OPD with complaints of pain on left side of her caesarean scar since last 6 months. It started 4- 5 days before the onset of menses and persisted for 5-6 days after caesation of menses. Pain was associated with burning sensation, redness and mild swelling of overlying skin. Her Caesarean section was done one year back.

Figure 8: Case 6- scar endometriosis at caesarean site.

Figure 9: Case 6- wide excision done.

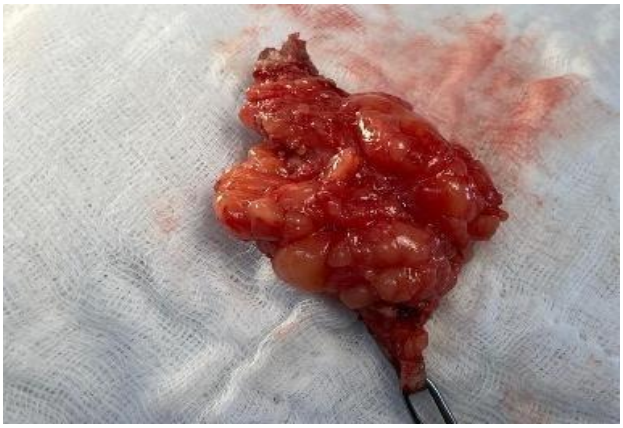

Figure 10: Case 6- tissue sent for histopathology.

Table 1: The five patients' demographic, clinical, and surgical details.

Case no.	Age (years)	Previous surgery	Site of endometriosis	Symptoms	Treatment	Outcome
1.	39	LSCS	Midline vertical scar	Cyclical pain and bleeding	Wide excision + TAH	Symptom free
2.	31	LSCS	Infraumbilical subcutaneous	Tender nodule, acyclic pain	Wide excision	Symptom free
3.	30	LSCS	Lateral abdominal wall in rectus sheath	Catamenial pain wide excision	Wide excision	Symptom free
4.	32	Episiotomy	Perineal/episiotomy scar	Severe cyclical pain	Wide excision sparing anal sphincter	Symptom free
5.	35	LSCS	Umbilical	Mild cyclical pain	Wide excision	Symptom free
6.	29	LSCS	Transverse LSCS scar	Cyclical pain, burning sensation, redness and mild swelling	Wide excision	Symptom free

DISCUSSION

Scar endometriosis represents a rare but clinically significant form of extra-pelvic endometriosis, most commonly developing in surgical or obstetric scars following caesarean section or episiotomy.[2-4] The most widely accepted mechanism of pathogenesis is iatrogenic implantation of viable endometrial tissue into the surgical wound during uterine incision or closure, followed by proliferation under hormonal stimulation.[3-8] Other proposed mechanisms, such as coelomic metaplasia and lymphovascular dissemination, may explain lesions occurring at distant or atypical sites.[9]

The classical clinical presentation includes a painful, palpable mass at or adjacent to a surgical scar, with symptoms that often worsen cyclically in relation to menstruation.[4,5] However, atypical features such as acyclic pain, minimal swelling, or involvement of uncommon locations—including the umbilicus, lateral abdominal wall, or episiotomy scar—can delay diagnosis and lead to misinterpretation as hernia, granuloma, or neoplastic lesions.[6-10] Imaging modalities play an important adjunctive role in diagnosis. Ultrasonography commonly demonstrates a hypoechoic or heterogeneous lesion, while magnetic resonance imaging is superior for defining lesion extent and assessing involvement of underlying fascia or muscle.[11,12] Fine-needle aspiration cytology may support the diagnosis preoperatively, but histopathological examination remains the gold standard, confirming the presence of endometrial glands and stroma within fibrous scar tissue.[13]

Wide local surgical excision with clear margins is the definitive treatment and is associated with excellent outcomes. Incomplete excision carries a risk of recurrence.[7-14] Medical therapies, including danazol and gonadotropin-releasing hormone analogues, may provide temporary symptomatic relief but are not curative.[15] Rare cases of malignant transformation into clear cell or endometrioid carcinoma have been reported, further emphasising the need for complete excision and

histopathological confirmation.[16] The present case series highlights the varied clinical spectrum of scar endometriosis, ranging from classical caesarean scar involvement to rare sites such as episiotomy scar, umbilicus, and lateral abdominal wall. A high index of suspicion, supported by appropriate imaging and timely surgical intervention, results in favourable outcomes and prevents prolonged morbidity.

CONCLUSION

Scar endometriosis whether at a caesarean scar, episiotomy site, or elsewhere in the abdominal wall is an uncommon but clinically significant iatrogenic condition. Wide local excision provides definitive therapy, with minimal recurrence when margins are clear. Awareness of atypical presentations and meticulous surgical technique are essential to reduce morbidity and diagnostic delay. Preventive measures during caesarean section include thorough irrigation before closure, use of separate instruments for uterine and abdominal closure, and careful tissue handling to prevent endometrial cell implantation .

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