



## Case Report

# The Convergence of Surgery, Skin and Cyclical Pain: A Diagnostic Puzzle

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## ABSTRACT

Scar endometriosis remains a clinical masquerader that requires a high index of suspicion in reproductive aged women with surgical histories. Here, we present a case of a 39-year-old female with complaints of tender nodular swelling over cesarean scar site. There was a triad of localized mass, previous uterine surgery, and distinct cyclical pain coinciding with menstruation. Dermoscopic evaluation revealed white polypoidal projections with central violaceous pigmentation and internal hemorrhagic spots. Wide surgical excision was performed, and histopathology confirmed the presence of endometrial glands. This case underscores the importance of recognizing cyclical pain, scar-related tender nodules in women with prior cesarean sections and role of dermoscopy in diagnosing scar endometriosis.

**Keywords:** Caesarean section, Cutaneous endometriosis, Scar endometriosis, Painful scar

## INTRODUCTION

Scar endometriosis is a rare but clinically significant complication following obstetric or gynaecologic surgeries, most frequently caesarean sections. It is characterised by a painful, localised nodule with cyclical symptoms and often poses a diagnostic dilemma. Here, we present a case of caesarean scar endometriosis in a reproductive-aged female, emphasising the role of clinical suspicion for early diagnosis and management.

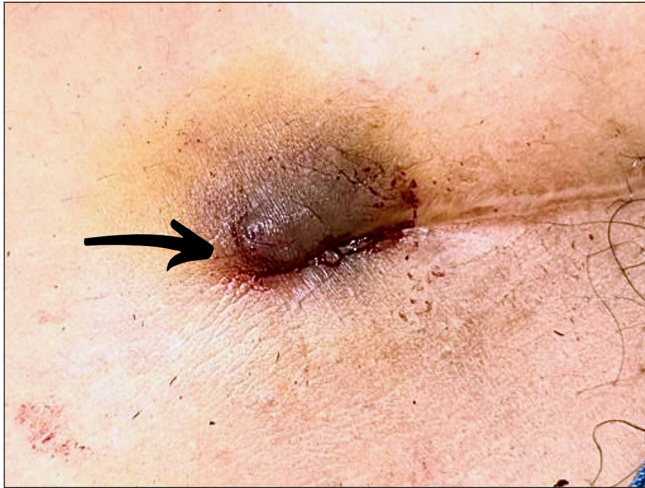
## CASE REPORT

A 39-year-old female presented with a progressively enlarging, painful swelling over the groin area associated with occasional bleeding, pelvic pain and dyspareunia for 4–5 months. Clinical examination revealed a 3 × 2 cm, firm, tender, well-defined, fixed, non-mobile hyperpigmented nodule present over the edge of a scar at the lower abdomen [Figure 1]. She has no other significant medical history and examination findings, except that she had undergone caesarean section 2 times, 8 and 1 years back. She noticed worsening of these symptoms during menstruation.

Dermoscopy showed multiple white polypoidal projections with central erythematous-violaceous homogeneous pigmentation along with irregular dark brown spots of internal bleeding [Figure 2a]. Multiple bright red haemorrhagic spots were present over these during menstruation [Figure 2b]. It was then deeply excised with a 1 cm margin and sent for histopathology, which reported multiple dilated glands with pseudostratified columnar epithelium and stroma with

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**Figure 1:** Clinical image of well-localised tender pigmented nodule over the edge of the previous caesarean scar (black arrow).

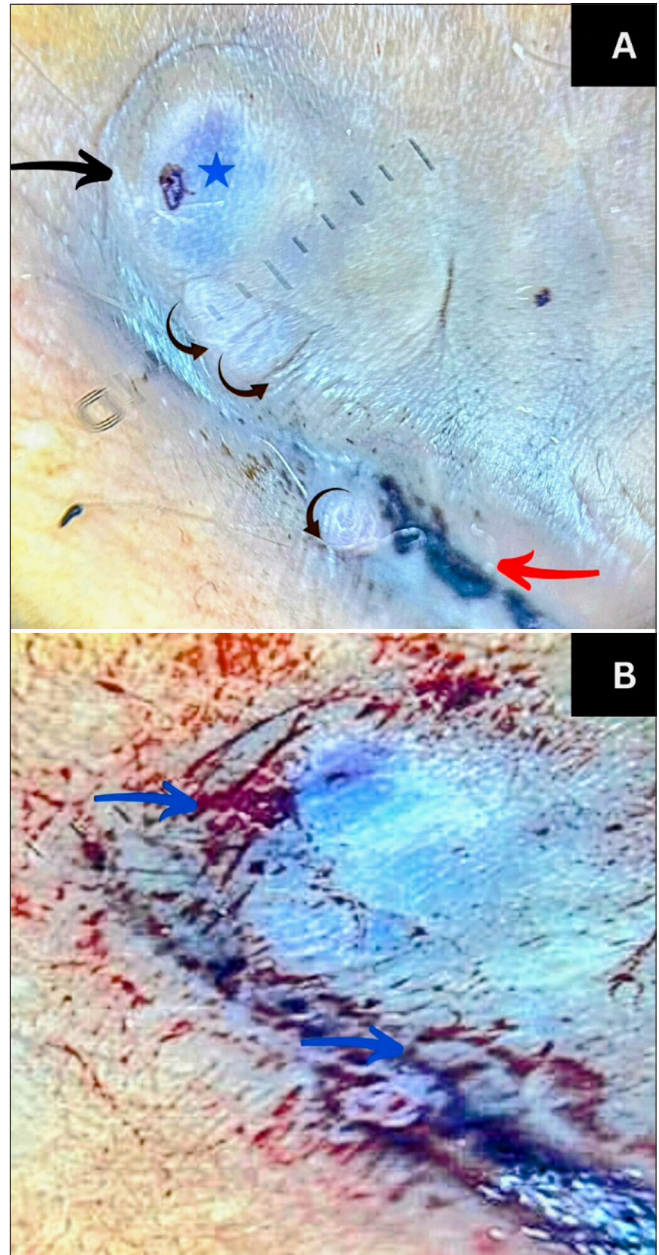
chronic inflammatory infiltrate and haemorrhage [Figure 3]. Based on these features, a diagnosis of scar endometriosis was made, and her symptoms improved post-surgical intervention.

## DISCUSSION

Scar endometriosis is a rare subtype of extrapelvic endometriosis, caused by the presence of functional endometrial tissue within surgical scars. It frequently affects women of reproductive age, particularly multiparous women in their third decade of life.<sup>[1,2]</sup> Its occurrence is most commonly preceded by caesarean surgery in around 64–96%, or after laparoscopy, laparotomy, episiotomy and hysterectomy.<sup>[2,3]</sup> The most widely accepted theory is direct implantation of endometrial cells into the surgical wound during uterine surgery, leading to growth of endometrial tissue at the scar site.<sup>[4]</sup>

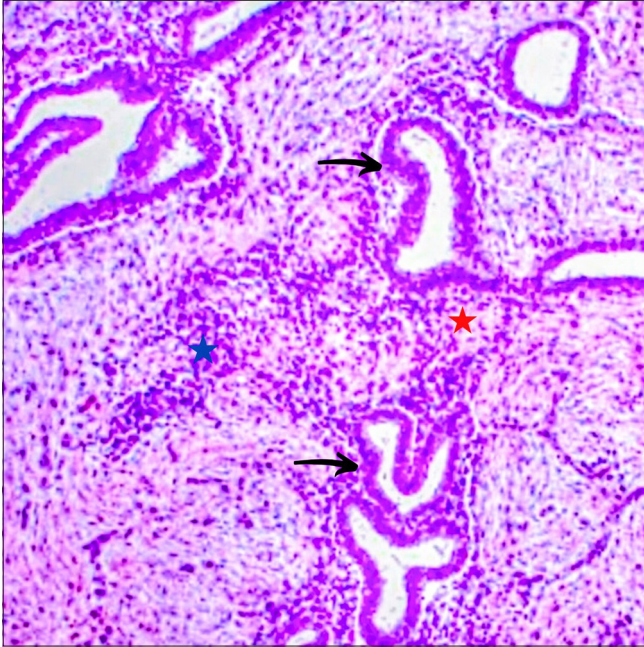
This triad, history of surgery, localised mass and cyclical pain, is highly suggestive of scar endometriosis. The hallmark symptom is cyclical pain correlating with menstruation, reported in most cases. A high index of clinical suspicion is crucial, particularly in patients with a history of obstetric or gynaecological surgery. The condition could be frequently misdiagnosed as suture granuloma, haematoma, hernia, lipoma, desmoid tumour or malignancy, delaying definitive treatment. Long-standing scar endometriosis can cause chronic pelvic pain, discomfort and dyspareunia, a common concern in venereology clinics, and can coexist with pelvic endometriosis. A thorough clinical history, emphasising prior surgeries and menstrual-related symptoms, is pivotal in raising suspicion.

Diagnosis begins with a detailed clinical examination, revealing a firm, tender and often immobile nodule within



**Figure 2:** (A) Dermoscopic image showing multiple white structureless polypoidal projections (black arrows) with homogeneous erythematous-violaceous pigmentation (blue asterisk) with some irregular dark brown structure of internal bleeding (red arrow); (B): Dermoscopic image with multiple red haemorrhagic spots (blue arrows) over scar endometrioma during menstruation (DermLite4, polarised mode,  $\times 10$ ).

or adjacent to the scar. Dermoscopy, though underutilised, may aid in identifying features such as structureless red–white papillomatous projections, along with brown spots as observed in this case.<sup>[4]</sup> Red dotted vessels with white reticular network, greyish background (due to a mix of blood extravasation) and brownish pigmented areas can also be seen, though data



**Figure 3:** Photomicrograph depicting multiple dilated dermal glands with pseudostratified columnar epithelium (black arrows) and fibrocollagenous stroma with chronic inflammatory infiltrate (blue asterisk) and extravasated red blood cells (red asterisk) (Haematoxylin and Eosin,  $\times 200$ ).

are limited.<sup>[4,5]</sup> Dermoscopy, when used alongside clinical evaluation, can facilitate earlier suspicion and diagnosis of scar endometriosis, prompting timely histopathological confirmation and management. Imaging modalities such as ultrasound and magnetic resonance imaging serve as adjuncts to diagnose endometriosis. However, histopathology remains the gold standard for confirmation post-direct or laparoscopic excision, demonstrating endometrial-like glands and stroma within fibrocollagenous tissue.

Surgical excision with wide margins is the mainstay of treatment, offering both diagnostic confirmation and therapeutic resolution. Complete removal of abnormal tissue, as in our case, is critical to prevent recurrence.<sup>[1]</sup> Medical therapy, including progesterone, danazol, or GnRH analogues, only provides temporary symptom relief. Careful surgical technique and wound management during obstetric and gynaecological procedures may help reduce risk.<sup>[2]</sup> Recurrence is rare with complete excision and early diagnosis and treatment can prevent other morbidities.<sup>[1]</sup>

## CONCLUSION

This case of scar endometriosis underscores the importance of recognising cyclical pain and scar-related nodules in women with prior caesarean sections, enabling dermatologists to suspect and diagnose this rare condition. It highlights the utility of dermoscopy and histopathology in confirming diagnosis and guiding timely surgical intervention to prevent complications.

**Ethical approval:** Institutional review board approval is not required.

**Declaration of patient consent:** The authors certify that they have obtained all appropriate patient consent forms. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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