

## CASE REPORTS PRIKAZI SLUČAJEVA

### MULTIFOCAL CAESAREAN SCAR ENDOMETRIOSIS WITH EXTENSIVE ABDOMINAL WALL INVOLVEMENT – A CASE REPORT

#### MULTIFOKALNA ENDOMETRIOZA U OŽILJKU NAKON CARSKOG REZA SA OPSEŽNIM ZAHVATANJEM TRBUŠNOG ZIDA – PRIKAZ SLUČAJA

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Case report  
*Prikaz slučaja*

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##### Abstract

**Introduction.** Caesarean scar endometriosis is a rare form of abdominal wall endometriosis that develops following caesarean delivery as a result of ectopic implantation of endometrial tissue within the surgical scar. Patients typically present with cyclic pain and a palpable abdominal wall mass, although diagnosis may be challenging because it resembles other abdominal wall lesions. **Case Report.** A 31-year-old woman presented with painful nodules located within a previous Cohen laparotomy scar. Symptoms began approximately one year after caesarean delivery and were strongly associated with menstruation. Ultrasonography demonstrated multiple heterogeneous lesions within the scar. Surgical exploration revealed multifocal endometriosis involving the skin, subcutaneous tissue and fascia. Complete excision of all visible lesions was performed. Histopathological examination confirmed abdominal wall endometriosis by demonstrating endometrial glands and stroma associated with haemorrhage, hemosiderin-laden macrophages, and fibrosis. The postoperative course was uneventful, and satisfactory wound healing was observed at the two-week follow-up visit. **Conclusion.** This case illustrates an uncommon presentation of caesarean scar endometriosis characterised by multifocal disease and extensive abdominal wall involvement. Caesarean scar endometriosis should be considered in women with cyclic pain and a mass arising within a previous caesarean section scar. Early recognition and complete surgical excision remain essential for definitive diagnosis and effective treatment.

**Key words:** Endometriosis; Cicatrix; Cesarean Section; Surgical Wound; Abdominal Wall; Postoperative Complications; Signs and Symptoms; Treatment Outcome

##### Introduction

Endometriosis is a chronic oestrogen-dependent inflammatory disease characterised by the presence of endometrial glands and stroma outside the uterine

##### Sažetak

**Uvod.** Endometrioza u ožiljku nakon carskog reza predstavlja retku formu endometrioze trbušnog zida koja se dovodi u vezu sa implantacijom endometrijalnog tkiva u operativni ožiljak tokom hirurške procedure. Najčešće se manifestuje cikličnim bolom i palpabilnom promenom u predelu ožiljka, dok multifokalna bolest sa zahvatanjem više slojeva trbušnog zida predstavlja neuobičajenu prezentaciju. **Prikaz slučaja.** Tridesetjednogodišnja pacijentkinja javila se zbog bolnih nodularnih promena u predelu ožiljka nakon prethodnog carskog reza. Tegobe su se javile približno godinu dana nakon operacije i bile su cikličnog karaktera, sa pogoršanjem tokom menstruacije. Pacijentkinja je navodila povremenu pojavu braonkaste sekrecije iz kožnih otvora na oba kraja ožiljka. Ultrazvučnim pregledom identifikovane su višestruke lezije u području ožiljka. Intraoperativno je utvrđena multifokalna endometrioza sa zahvatanjem kože, potkožnog tkiva i fascije, uz supfascijalno širenje prema levom m. rektusu abdominis, bez infiltracije mišićnih vlakana. Učinjena je široka ekscizija svih makroskopski vidljivih promena uz primarnu rekonstrukciju fascije. Histopatološka analiza potvrdila je prisustvo endometrijalnih žlezda i strome, uz krvarenje, hemosiderofage i fibrozne promene. Postoperativni tok protekao je uredno. **Zaključak.** Multifokalna endometrioza u ožiljku nakon carskog reza sa ekstenzivnim zahvatanjem trbušnog zida predstavlja retku kliničku manifestaciju bolesti. Prisustvo kožnih promena i ciklične sekrecije može ukazivati na dugotrajan i progresivan tok bolesti. Rano prepoznavanje ovog entiteta i potpuna hirurška ekscizija od ključnog su značaja za postavljanje definitivne dijagnoze i uspešno lečenje.

**Ključne reči:** endometrioza; ožiljak; carski rez; hirurška rana; trbušni zid; postoperativne komplikacije; znaci i simptomi; ishod lečenja

cavity [1]. It affects approximately 10% of women of reproductive age and most commonly involves pelvic structures including the ovaries, pelvic peritoneum, and uterosacral ligaments [1]. Although endometrio-

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### Abbreviations

|     |                                |
|-----|--------------------------------|
| CSE | – caesarean scar endometriosis |
| PDS | – polydioxanone                |
| CT  | – computed tomography          |
| MRI | – magnetic resonance imaging   |

sis predominantly affects pelvic structures, lesions may also occur at extra-pelvic sites [2].

Caesarean scar endometriosis (CSE) represents a rare form of abdominal wall endometriosis that develops within or adjacent to a previous caesarean section scar. The reported incidence ranges from 0.03% to 1.5% following caesarean delivery [3,4]. The most widely accepted pathogenetic mechanism is iatrogenic implantation of viable endometrial cells into the wound during uterine incision and closure, followed by hormonal stimulation and proliferation of the implanted tissue [4,5]. Consequently, symptom onset may occur months or even years after the initial surgical procedure [6].

Patients typically present with a painful palpable mass in the abdominal wall, frequently associated with cyclical exacerbation of symptoms during menstruation [4,7]. Despite its characteristic clinical features, CSE remains a diagnostic challenge and is commonly misdiagnosed as other abdominal wall lesions, including hernias, granulomas, abscesses, haematomas, and soft tissue tumours [3–7].

Ultrasonography is usually the first-line imaging modality, while computed tomography and magnetic resonance imaging may be useful in determining the extent of disease and involvement of deeper structures [3,5]. Definitive diagnosis relies on histopathological confirmation demonstrating endometrial glands and stroma within the affected tissue [3,6]. Complete surgical excision with clear margins remains the treatment of choice [3,5].

We present a case of multifocal caesarean scar endometriosis with involvement of the skin, subcutaneous tissue and fascia, successfully treated by wide surgical excision.

### Case Report

A 31-year-old woman was referred to our department for elective surgical treatment of painful lesions located within a previous scar of Cohen laparotomy. The patient had undergone elective caesarean delivery approximately six years earlier because of the breech presentation of the foetus. One year and three months after surgery, she began experiencing pain localised to the scar region, which was strongly associated with her menstrual cycle and occasionally persisted beyond menstruation. The patient also reported cyclical brownish discharge from focal skin openings located at both lateral ends of the scar.



**Figure 1.** Preoperative appearance and localisation of palpable endometriotic lesions within the previous scar of Cohen laparotomy. In both corners of the incision, skin discolouration can be observed

Physical examination revealed multiple palpable nodules along the caesarean scar (**Figure 1**). Gynaecological examination was otherwise unremarkable. Preoperative ultrasonography identified multiple heterogeneous lesions within the caesarean section scar, including a dominant lesion measuring 45×20 mm and several smaller adjacent nodules. The uterus and adnexa appeared normal.

Based on the patient's history, cyclical symptoms, and imaging findings, caesarean scar endometriosis was suspected, and surgical treatment was scheduled.

Under general anaesthesia, exploration of the previous Cohen incision and complete excision of all visible endometriotic tissue was performed. Surgery began with an incision approximately 1 cm from the margin of the affected skin. Subcutaneous tissue around the endometriotic nodules was grasped with curved Pean forceps, cut with scissors and ligated when needed in multiple steps. This was done to precisely prepare the nodule so that there would not be a large defect in the abdominal wall. The same technique was used to separate the nodule from the fascia (rectus sheath), leaving a 1x5 cm fascial defect in the left half, through which the abdominal cavity was opened.

Intraoperatively, two endometriotic nodules were identified in the right half of the scar, forming a conglomerate approximately 40 mm in diameter with extension to the skin surface and an associated small cutaneous opening. An additional conglomerate measuring approximately 10 cm in diameter was identified in the left half of the scar and also showed signs of prior focal cutaneous drainage. Both lesions were firmly adherent to the fascia, while the left-sided lesion demonstrated subfascial extension towards the left rectus abdominis muscle, without involvement of the muscle fibres. Dense adhesions between the greater omentum and the anterior abdominal wall

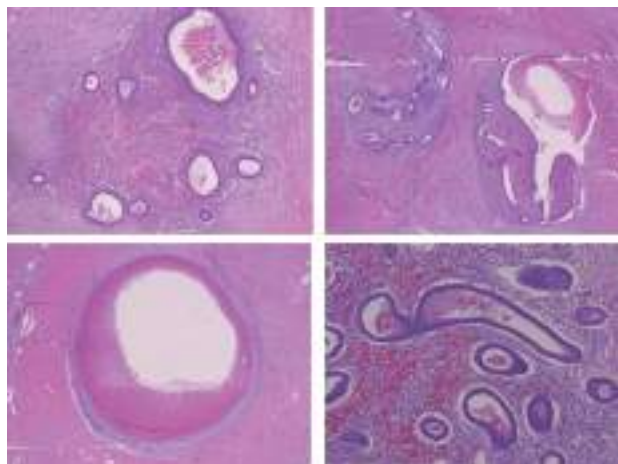


**Figure 2.** Resected surgical specimen following wide local excision of multifocal scar endometriosis

were also observed. The abdominal wall was subsequently reconstructed, and the surgical specimen was submitted for histopathological examination.

Macroscopic examination revealed two fragments of fibroadipose tissue measuring 11×4.5×4 cm and 6×3.5×3.5 cm (**Figure 2**). Histopathological analysis demonstrated endometrial glands lined by benign columnar epithelium surrounded by endometrial stroma, accompanied by areas of haemorrhage, haemosiderin-laden macrophages, and fibrotic scar tissue (**Figure 3**). These findings confirmed the diagnosis of abdominal wall endometriosis.

The postoperative course was uneventful. At the two-week follow-up visit, sutures were removed, and the surgical wound demonstrated satisfactory healing without signs of infection, wound dehiscence, or other early postoperative complications (**Figure 4**). The first menstrual period after the operation was painless. The patient was started on dienogest.

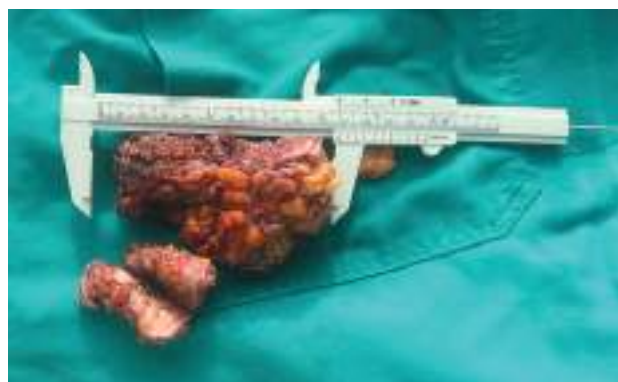


**Figure 3.** Histopathological examination demonstrating endometrial glands and stroma embedded within fibroadipose tissue, accompanied by haemorrhage and haemosiderin deposition (haematoxylin-eosin stain)



**Figure 4.** Postoperative appearance of the surgical wound at follow-up, demonstrating satisfactory healing by primary intention

## Discussion

The present case demonstrated several features characteristic of caesarean scar endometriosis, including a history of caesarean delivery, cyclic pain, and multiple palpable lesions within the Cohen scar. However, unlike several reported cases describing a solitary lesion confined to the subcutaneous tissue or fascia [4,5,7], our patient exhibited multifocal disease with extensive involvement of the abdominal wall. Intraoperatively, multiple nodules were identified along the previous cesarean section scar, with extension into the fascia. Such extensive abdominal wall involvement may necessitate more complex surgical management [8]. Such extensive abdominal wall involvement may necessitate more complex surgical management and, in selected cases, abdominal wall reconstruction [8]. The extent of disease in our patient required wide excision involving the skin and subcutaneous tissue; however, the fascial defect was small and could be reconstructed with direct Polydioxanone (PDS) sutures.

Another notable finding was cutaneous involvement with signs of previous focal cutaneous drainage at both lateral ends of the incision, overlying the lesions. Cutaneous manifestations of abdominal wall endometriosis have been described in the literature [3,9]. Repeated cyclical haemorrhage and chronic inflammation within ectopic endometrial tissue may contribute to progressive tissue destruction and eventual breakdown of the overlying skin [1,2]. In our case, focal cutaneous involvement reflected the disease's chronic nature and highlighted the potential for progressive local tissue involvement when endometriotic lesions persist.

Cesarean scar endometriosis may pose a diagnostic challenge [8]. While the diagnosis was suspected preoperatively based on the patient's history and characteristic cyclic symptoms, the multifocal nature of the disease, cutaneous involvement, and extension into deeper abdominal wall structures emphasised the importance of thorough preoperative evaluation and careful surgical planning. Although the diagnosis was correctly suspected in our patient, similar le-

sions may mimic a variety of benign and malignant abdominal wall conditions, potentially leading to diagnostic uncertainty.

Imaging studies, particularly ultrasonography, play a key role in the initial evaluation of suspected scar endometriosis [9]. The diagnostic evaluation of endometriosis generally incorporates clinical findings and imaging, with surgical assessment used when indicated [10]. In the present case, ultrasonography successfully identified multiple lesions within the abdominal wall scar; however, intraoperative findings revealed more extensive disease than initially anticipated. This discrepancy highlights the limitations of ultrasonography in accurately assessing the full extent of deeply infiltrating abdominal wall endometriosis, particularly in patients with multifocal or complex lesions. In such cases, advanced cross-sectional imaging modalities, including computed tomography (CT) and magnetic resonance imaging (MRI), may provide a more comprehensive assessment of lesion size, infiltration depth, and involvement of adjacent structures, thereby facilitating preoperative planning [9]. Nevertheless, the availability and routine use of these modalities may be limited in certain clinical settings. Despite the important role of imaging, definitive diagnosis continues to rely on histopathological examination [3,6]. In our patient, the presence of endometrial glands and stroma associated with haemorrhage, haemosiderophages, and fibrosis confirmed the diagnosis.

Complete surgical excision remains the treatment of choice for caesarean scar endometriosis and is associated with a low recurrence rate [8]. Although hormonal therapies, including oral contraceptives, progestins, and gonadotrophin-releasing hormone ago-

nists, may provide temporary symptom relief, their effectiveness is generally limited by symptom recurrence after treatment discontinuation [9]. Consequently, medical therapy is typically reserved for selected patients or used as an adjunct to surgical management. In the present case, the extent of disease involvement required a wide local excision, resulting in an uncomplicated postoperative recovery. Overall, management should be individualised and based on a comprehensive assessment of clinical and imaging findings [10].

Several limitations should be acknowledged. Preoperative MRI or CT imaging was not performed, which may have provided a more precise evaluation of lesion extent and involvement of adjacent structures. In addition, the postoperative follow-up period was relatively short, limiting assessment of long-term recurrence. Finally, concomitant pelvic endometriosis could not be definitively excluded because dedicated pelvic imaging and laparoscopic assessment were not undertaken.

## Conclusion

Caesarean scar endometriosis is an uncommon but important complication of caesarean delivery that should be considered in women presenting with cyclic pain and a palpable mass within or adjacent to a previous caesarean section scar. This case highlights the potential for multifocal disease with extensive involvement of the abdominal wall, including the skin and fascia. Early recognition and appropriate surgical management are essential to achieve definitive diagnosis and successful treatment while minimising the risk of progressive local extension and recurrence.

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