Case Report

Journal Homepage: http://crcp.tums.ac.ir

Chronic Cesarean Scar Abscess Mimicking Scar Endometriosis: A Diagnostic Pitfall

Emel Özalp*

Department of Obstetrics and Gynecology, Etlik City Hospital, Ankara, Türkiye.

Use your device to scan and read the article online

Citation Özalp E. Chronic Cesarean Scar Abscess Mimicking Scar Endometriosis: A Diagnostic Pitfall. Case Reports in Clinical Practice. 2025; 10(6): 285-288. DOI:10.18502/crcp.v10i6.21616

Running Title Cesarean Scar Abscess Mimicking Scar Endometriosis

Article info:
Received: November 19, 2025
Revised: November 28, 2025
Accepted: December 19, 2025

Keywords:
Cesarean scar; Abscess; Scar endometriosis; Diagnostic pitfall; Pelvic mass

ABSTRACT

Cesarean scar–related masses represent a diagnostic challenge due to overlapping clinical and imaging features. Scar endometriosis is often the leading consideration; however, other entities may closely mimic its presentation.

We report the case of a 33-year-old woman with a history of three cesarean sections presenting with chronic pelvic pain and abnormal uterine bleeding. Imaging studies, including transvaginal ultrasonography and non-contrast magnetic resonance imaging (MRI), revealed a lesion at the cesarean scar highly suggestive of scar endometriosis. Based on these findings, surgical intervention was planned.

Intraoperative exploration demonstrated a cystic lesion beneath the bladder peritoneum containing purulent material. Complete excision was performed. Histopathological examination confirmed abscess formation with no evidence of endometriosis.

This case highlights the limitations of imaging in differentiating cesarean scar lesions and emphasizes the importance of considering chronic abscess in the differential diagnosis, particularly when laboratory findings are discordant or imaging is inconclusive. Surgical exploration remains essential for definitive diagnosis and management.

Introduction

Masses arising at cesarean scar sites represent a heterogeneous group of conditions and may pose a diagnostic challenge due to overlapping clinical and radiological features. While cesarean scar endometriosis (CSE) is a well-recognized entity, other pathologies such as abscess, hematoma, suture granuloma, hernia, and, rarely, neoplastic lesions may present with similar findings [1–3].

Accurate diagnosis relies on careful integration of clinical history, physical examination, and imaging. However, even with advanced imaging modalities, distinguishing between these entities remains challenging, and misdiagnosis may occur.

Case Presentation

A 33-year-old woman, gravida 3 para 3, with a history of three cesarean sections and prior appendectomy, presented with chronic pelvic pain, postmenstrual

* **Corresponding Author:**
Emel Özalp
Address: *Department of Obstetrics and Gynecology, Etlik City Hospital, Ankara, Türkiye.*
E-mail: *emelozalp@gmail.com*

spotting, and prolonged menstrual bleeding for three years. Her medical history was otherwise unremarkable.

Physical and pelvic examinations were within normal limits. Laboratory investigations revealed hemoglobin of 10.7 g/dL, white blood cell count of 5.0 ×10^9/L, and an elevated C-reactive protein (CRP) level of 24 mg/L. CA-125 was within normal limits (7.3 U/mL). Although CRP elevation was noted, the absence of systemic signs of infection and the chronic nature of symptoms initially reduced suspicion for an infectious etiology.

Transvaginal ultrasonography demonstrated a 34 × 22 mm well-defined heteroechoic lesion at the cesarean scar, extending from the anterior uterine wall toward the serosa, without significant Doppler vascularization. The uterus and adnexa were otherwise normal (Figure 1).

Pelvic magnetic resonance imaging (MRI), performed without contrast, revealed a nodular lesion at the anterior uterine wall corresponding to the cesarean scar, appearing hyperintense on T1-weighted and hypointense on T2-weighted sequences. These findings were interpreted as suggestive of scar endometriosis. A simple follicular cyst was also noted in the left ovary (Figure 2).

Based on clinical and radiological findings, surgical

Fig. 1. Transvaginal ultrasonography demonstrating a well-defined heteroechoic lesion at the cesarean scar site, extending from the anterior uterine wall toward the serosa. The lesion appears relatively homogeneous with low internal vascularity on Doppler evaluation. These findings were initially interpreted as suggestive of scar endometriosis; however, subsequent surgical exploration revealed a chronic abscess.

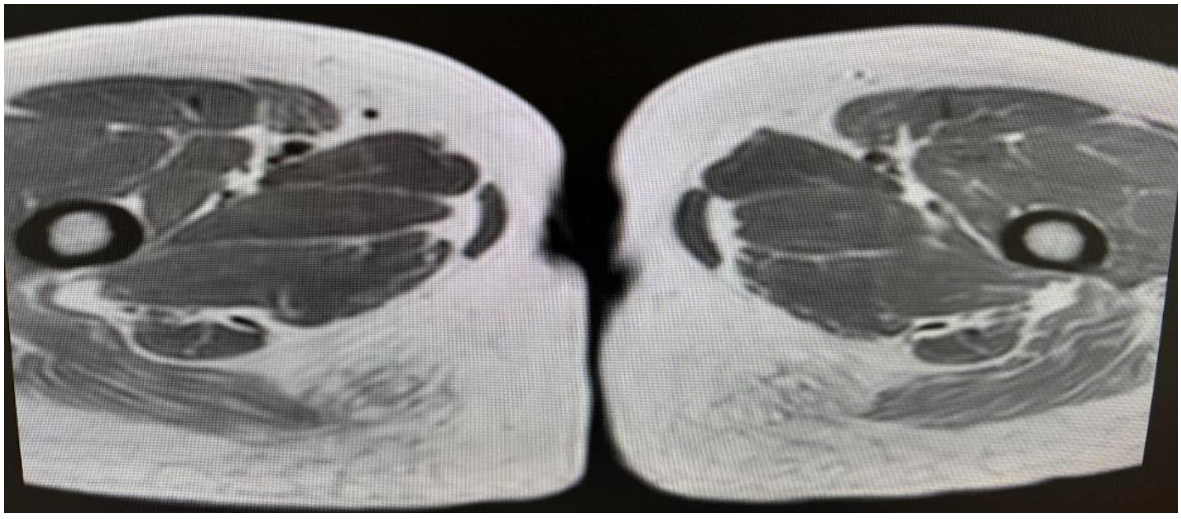

Fig. 2. Pelvic magnetic resonance imaging (MRI) demonstrating a nodular lesion at the anterior uterine wall corresponding to the cesarean scar. The lesion appears hyperintense on T1-weighted sequences and relatively hypointense on T2-weighted sequences, findings that were initially interpreted as consistent with scar endometriosis. However, these signal characteristics may overlap with chronic inflammatory lesions containing proteinaceous or necrotic material, as confirmed intraoperatively in this case.

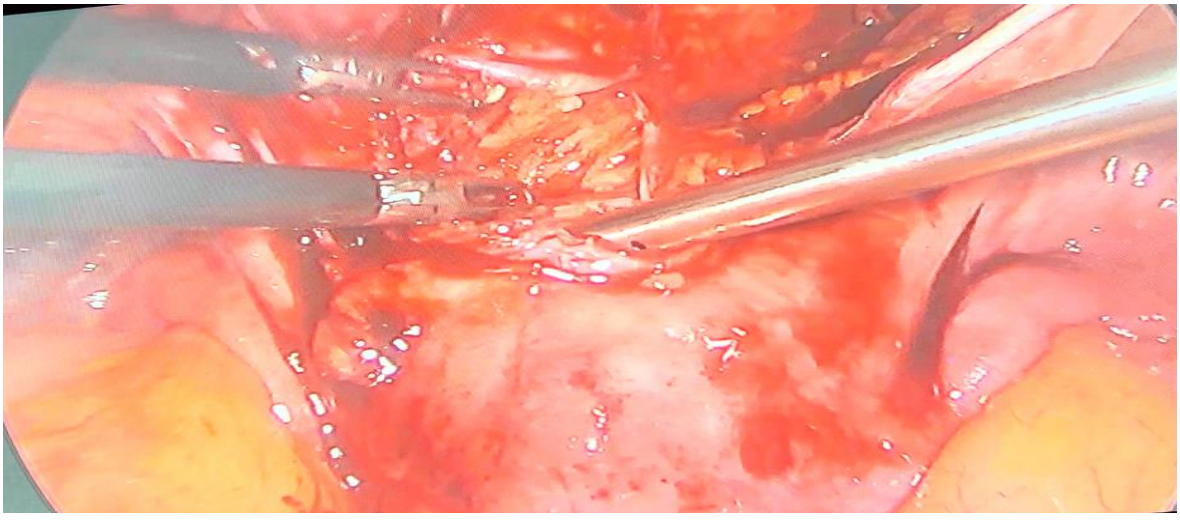

Fig. 3. Intraoperative laparoscopic image demonstrating a cystic lesion located beneath the bladder peritoneum at the cesarean scar site. Following incision of the lesion, thick purulent material was encountered, confirming the diagnosis of a chronic abscess. These findings contrast with the preoperative imaging impression of scar endometriosis.

management was planned with a preliminary diagnosis of cesarean scar endometriosis. Hysteroscopy revealed a normal endometrial cavity.

During laparoscopic exploration, dense adhesions were observed between the anterior abdominal wall, omentum, and bowel loops. Following adhesiolysis, a cystic lesion measuring approximately 4 × 2 cm was identified beneath the bladder peritoneum at the cesarean scar site. After bladder mobilization, the lesion was incised, revealing thick purulent material. The lesion was completely excised and sent for histopathological examination (Figure 3).

Histopathological evaluation confirmed abscess formation with no evidence of endometriosis. Microbiological culture was not obtained, which represents a limitation of this case. The patient received postoperative intravenous ceftriaxone and metronidazole for seven days. The postoperative course was uneventful, and she was discharged in good clinical condition.

Discussion

Cesarean scar–related masses encompass a broad spectrum of pathologies, among which scar endometriosis is often the leading consideration in patients presenting with chronic pelvic pain and compatible imaging findings [1,2]. However, this case demonstrates that imaging findings alone may be misleading.

MRI is widely regarded as the most informative imaging modality for evaluating scar endometriosis. Typical findings include T1 hyperintensity related to hemorrhagic content and variable T2 signal depending on fibrosis and chronicity [3,4]. Nevertheless, these features are not specific and may overlap with lesions containing proteinaceous or inflammatory material [5,6].

In this patient, imaging findings strongly suggested endometriosis; however, intraoperative findings revealed a chronic abscess. Encapsulated or chronic abscesses may demonstrate similar MRI signal characteristics due to mixed internal components such as necrotic debris, blood products, and inflammatory exudate [5,6]. This overlap can lead to diagnostic misinterpretation, particularly when contrast-enhanced imaging is not performed.

The absence of contrast-enhanced MRI in this case may have limited diagnostic accuracy. Contrast studies can help differentiate inflammatory lesions from endometriotic tissue by demonstrating peripheral enhancement patterns typical of abscesses [6].

Another important clue in this case was the elevated CRP level, which, although nonspecific, could suggest an underlying inflammatory process. The absence of systemic infection signs and the chronic clinical course reduced suspicion of infection, yet this case illustrates that low-grade chronic abscesses may persist for years and present with subtle findings.

Scar abscess formation following cesarean section is uncommon and may result from retained suture material, foreign body reaction, or secondary infection of a hematoma [7,8]. These lesions may remain

clinically silent or present with nonspecific symptoms, further complicating diagnosis [9].

This case underscores the importance of maintaining a broad differential diagnosis when evaluating cesarean scar lesions. Even when clinical and imaging findings strongly favor endometriosis, alternative diagnoses such as chronic abscess should be considered, particularly in the presence of atypical laboratory findings or incomplete imaging evaluation.

Ultimately, surgical exploration remains both the gold standard for diagnosis and the definitive treatment in such cases [2].

Conclusion

Cesarean scar lesions present a diagnostic challenge due to overlapping clinical and imaging features. Although scar endometriosis is frequently suspected, other entities such as chronic abscess may closely mimic its presentation.

This case highlights that imaging findings alone may be insufficient for definitive diagnosis. Clinicians should maintain a broad differential diagnosis, especially when laboratory findings are discordant or imaging is limited. Surgical exploration remains essential for accurate diagnosis and appropriate management.

Ethical Considerations

Ethical Approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Funding

No funding was received for this study.

Conflict of Interests

The author declare no conflict of interest.

References

[1] Horton JD, Dezee KJ, Ahnfeldt EP, Wagner M. Abdominal wall endometriosis: a surgeon's perspective and review of 445 cases. Am J Surg. 2008 Aug;196(2):207-12. https://doi.org/10.1016/j.amjsurg.2007.07.035

[2] Zhang J, Liu X, Li F, et al. Clinical characteristics of abdominal wall endometriosis. Int J Clin Exp Med. 2015;8(9):15336-42.

[3] Gidwaney R, Badler RL, Yam BL, et al. Endometriosis of abdominal and pelvic wall scars: multimodality imaging findings. AJR Am J Roentgenol. 2012;198(3):W266-72.

[4] Balleyguier C, Chapron C, Chopin N, Hélénon O, Menu Y. Abdominal wall and surgical scar endometriosis: results of magnetic resonance imaging. Gynecol Obstet Invest. 2003;55(4):220-4. https://doi.org/10.1159/000072078

[5] Takeuchi H, Kitade M, Kikuchi I, et al. MR imaging in pelvic mass differential diagnosis. Radiographics. 2005;25(6):1431-46.

[6] Busard MPH, Mijatovic V, van Kuijk C, Hompes PG. Appearance of abdominal wall endometriosis on MR imaging. Eur Radiol. 2010;20(5):1267-76. https://doi.org/10.1007/s00330-009-1658-1

[7] Leite GK, Carvalho LF, Korkes H, Guazzelli TF, Kenj G, Viana Ade T. Scar endometrioma following obstetric surgical incisions: retrospective study on 33 cases and review of the literature. Sao Paulo Med J. 2009 Sep;127(5):270-7. https://doi.org/10.1590/S1516-31802009000500005

[8] Minaglia S, Mishell DR Jr, Ballard CA. Incisional endometriomas after cesarean section. J Reprod Med. 2007;52(7):630-4.

[9] Diamond MP, Freeman ML. Clinical implications of postsurgical adhesions. Hum Reprod Update. 2001 Nov-Dec;7(6):567-76. https://doi.org/10.1093/humupd/7.6.567