Scar endometriosis as an easily misdiagnosed abdominal mass: a case report and review of the literature

Chi Hyun Lee¹,
Changryul Claud Yi¹,²,
Ji Hyun Ahn²,³, Joo Hyoung Kim¹,²,³*

¹Department of Plastic and Reconstructive Surgery, Pusan National University School of Medicine, Busan, Korea
²Biomedical Research Institute, Pusan National University Hospital, Busan, Korea
³Department of Pathology, Pusan National University Hospital, Busan, Korea

This work was supported by a clinical research grant from Pusan National University Hospital in 2022.

INTRODUCTION

Endometriosis is characterized by the presence of ectopic endometrial-like glands and stroma outside the uterus [1]. This common disease affects 5% to 10% of all menstruating women and primarily affects pelvic sites such as the ovaries, uterine ligaments, and peritoneum [2,3]. Extrapelvic endometriosis can occur in atypical locations, ranging from the gastrointestinal tract to the central nervous system [4,5]. Scar endometriosis, a form of extrapelvic endometriosis, is marked by a tender nodule that worsens progressively in sync with the menstrual cycle, reflecting its estrogen dependence. It is often misdiagnosed due to its rarity and variable presentation, although diagnostic imaging can help rule out other conditions [6,7]. This study examined a case of scar endometriosis that was incidentally identified on a computed tomography (CT) scan without any symptoms and reviewed the literature to facilitate early diagnosis and prompt treatment based on the patient's medical history and physical examination.

Keywords Cicatrix / Endometriosis / Hysterectomy / Neoplasms / Case reports

Received: Feb 16, 2024 Revised: Apr 22, 2024 Accepted: Apr 23, 2024
Correspondence: Joo Hyoung Kim
Department of Plastic and Reconstructive Surgery, Pusan National University Hospital, Pusan National University School of Medicine, 179 Gudeok-ro, Seogu, Busan 49241, Korea
E-mail: medic144@hanmail.net
*Current affiliation: Department of Plastic and Reconstructive Surgery, Good Moonhwa Hospital, Busan, Korea

Copyright © 2024 The Korean Society for Aesthetic Plastic Surgery. This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (https://creativecommons.org/licenses/by-nc/4.0/) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited. www.e-aaps.org
CASE REPORT

A 40-year-old woman presented with a soft tissue mass in the lower abdomen, which was incidentally discovered on CT imaging in 2023 for the evaluation of primary aldosteronism. The patient’s surgical history included two uncomplicated cesarean sections between 2014 and 2015, a hysterectomy for dysmenorrhea, and the removal of a right ovarian cyst in 2017. She noticed a palpable lump a month previously but reported no abdominal discomfort or cyclical symptoms.

Physical examination revealed a linear cesarean scar accompanied by a centrally located, mildly palpable, indistinct mass with pigmentation (Fig. 1). Further CT imaging showed an ill-defined soft tissue mass, approximately 3.5 cm along its long axis, infiltrating the rectus abdominis muscle (Fig. 2). Based on these radiologi-
cal findings, a desmoid tumor was suspected. Considering the possibility of endometriosis, as indicated by the patient’s medical history, surgical removal with a 5-mm margin was performed.

During the surgery, the fibrotic scar was found to be strongly adherent to the fascia. The mass, along with the scar tissue, was completely excised and appeared grossly as a rounded entity with indistinct borders (Fig. 3). Histopathological examination showed cystically dilated endometrial-type glands and stroma, confirming the presence of endometriosis. Additionally, immunohistochemical analysis indicated that the stromal cells tested positive for CD10 and negative (with cytoplasmic positivity) for beta-catenin (Fig. 4). Following the surgery, the patient was referred for hormone therapy, and treatment with a gonadotropin-releasing hormone agonist was initiated. The patient recovered well and experienced no recurrence of the condition (Fig. 5).

DISCUSSION

Scar endometriosis is a rare condition that primarily affects young women of reproductive age and is frequently misdiagnosed due to its low incidence (0.07%–0.47%). This condition usually appears after abdominal or pelvic surgery, especially following early hysterotomy and cesarean section [8,9]. The iatrogenic direct implantation theory provides the best explanation for this relationship, suggesting that the inadvertent introduction and implantation of endometrial tissue into surgical wounds during procedures can lead to the development of scar endometriosis [10].

The symptoms of scar endometriosis commonly include cyclic pain associated with menses, dyspareunia, and dysmenorrhea. However, the onset of symptoms can vary widely, occurring months to years after the initial surgery, and some studies have reported that only 20% of patients exhibit symptoms [2,11]. Additionally, the lesions can display a wide range of colors, depending on the depth and extent of the associated hemorrhage. Due to these varied presentations, diagnosing this condition is challenging, with one study reporting an accuracy rate of less than 50% for the initial diagnosis [8,12].

Diagnostic imaging findings can be helpful but are typically non-specific. Therefore, it is essential to consider a broad spectrum of other diseases that may manifest as a mass in the abdominal wall, including sarcoma, desmoid tumor, lymphoma, hypertrophic scar, and hernia [13,14]. CT and magnetic resonance imaging are also crucial in the preoperative assessment of the extent of the disease. Ultimately, the diagnosis is confirmed histopathologically by the presence of endometrial glands and stroma [15].

The optimal treatment for scar endometriosis involves wide local excision, ensuring a sufficient margin of 5–10 mm of healthy tissue around the mass, with special attention to preventing subsequent re-implantation. Additionally, because the lesion is sometimes densely adherent and extensively involves the abdominal rectus fascia, proximity to a synthetic graft may be necessary [13]. Furthermore, although rare, careful observation is necessary due to the potential for scar endometriosis to transform into clear cell carcinoma. The efficacy of hormone therapy as a standalone treatment is limited, and hormone therapy is more commonly used as an adjunct to surgical excision, primarily to decrease lesion size preoperatively [7].

In conclusion, surgeons should maintain a high index of suspicion for scar endometriosis in young female patients presenting with abdominal masses who have a history of abdominal or pelvic surgery, regardless of their symptoms. Although imaging modalities can be useful, the patient’s medical history and physical examination remain crucial.

NOTES

Conflict of interest
No potential conflict of interest relevant to this article was reported.

Ethical approval
This report was approved by the Institutional Review Board of Pusan National University Hospital (IRB No. 2307-027-129).

Patient consent
The patient provided written informed consent for the publication and the use of her images.

ORCID
Chi Hyun Lee https://orcid.org/0009-0006-5870-2664
Changryul Claud Yi https://orcid.org/0000-0002-4633-0043
Ji Hyun Ahn https://orcid.org/0000-0002-3312-788X
Joo Hyoung Kim https://orcid.org/0000-0002-4893-3761
REFERENCES


