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Enrichment: Journal of Multidisciplinary Research and Development

Abdominal Wall Endometriosis: Case Series

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ABSTRACT

Abdominal wall endometriosis (AWE) is an uncommon presentation of extra-pelvic endometriosis, most frequently developing following gynaecological surgeries, particularly caesarean sections. The study aims to describe the clinical characteristics, diagnostic process, surgical management, and outcomes in two post-caesarean patients diagnosed with AWE, while highlighting the importance of early recognition. This research is a retrospective descriptive case series. We used purposive sampling of two patients with histopathologically confirmed AWE. Two women, aged 41 and 44 years, presented with a gradually enlarging palpable mass in the right lower abdominal wall, accompanied by local tenderness and cyclical pain during menstruation. Symptom duration was 14 years in the 41-year-old and 7 years in the 44-year-old, both with a history of caesarean section. Contrast-enhanced CT scans revealed soft tissue lesions within the rectus abdominis muscle extending into subcutaneous tissue. Both patients underwent wide surgical excision with adequate margins, followed by polypropylene mesh reconstruction due to lesion size. Histopathology confirmed ectopic endometrial glands and stroma. Both patients recovered without complications and reported complete resolution of symptoms at follow-up. Masses in the right lower abdominal wall with a history of caesarean section are frequently misdiagnosed due to multiple differential diagnoses, including desmoid tumours, hernias, lipomas, hematomas, and suture granulomas. AWE should be considered in women presenting with cyclical abdominal wall pain and a history of caesarean section. Early wide surgical excision with appropriate reconstruction provides excellent outcomes. Improved clinical awareness is essential to reduce diagnostic delays and enhance patient quality of life.

Keywords: Abdominal wall endometriosis, AWE, Endometrial glands and stroma

INTRODUCTION

Endometriosis is a chronic inflammatory disease that occurs when endometrium-like tissue grows outside the uterus, affecting about 10% of women of reproductive age worldwide. The disease generally affects the pelvic organs such as the ovaries, uterosacral ligaments, and peritoneum. However, in some cases, endometriosis can progress beyond the pelvis, affecting other organs such as the bladder, intestines, and even the abdominal wall (Wang et al., 2025). This makes endometriosis an often-overlooked global health problem due to its symptoms resembling other medical conditions, leading to delays in diagnosis and treatment (Dipankar et al., 2025).

One rare form of extrapelvic endometriosis is abdominal wall endometriosis (AWE), which often occurs after gynecological surgical procedures, specifically cesarean sections. AWE can appear as an enlarged or painful mass at the site of a cesarean incision scar, which is often mistaken for other conditions such as desmoid tumors, hernias, or lipomas. Typical

symptoms of AWE include cyclic pain that increases during menstruation, often leading to misdiagnosis and delayed treatment (Encalada-Soto et al., 2025).

Although AWE is relatively rare, the condition is often overlooked in medical diagnosis due to limited clinical knowledge regarding the phenomenon. Many existing cases suggest that although it occurs in post-cesarean patients, AWE remains rarely considered a major possibility by physicians, given that its presentation is often similar to a variety of other abdominal conditions. This article focuses on the importance of early recognition of AWE in post-cesarean patients, as well as the need for proper diagnosis and treatment to ensure optimal recovery (Nnoaham et al., 2011).

AWE can cause significant disruption to a patient's quality of life, including chronic pain, impaired mobility, and emotional problems related to the physical limitations posed by the condition. Without proper diagnosis, AWE can continue to develop, causing prolonged pain and interfering with daily functioning. Therefore, it is very important for medical professionals to recognize the early symptoms of AWE, especially in patients with a history of cesarean section, to reduce delays in diagnosis and improve the patient's quality of life (Nominato et al., 2019).

Previous research on AWE has generally been limited to case reports or smaller literature reviews. Some studies reveal that AWE is often diagnosed late or misdiagnosed, which causes patients to experience chronic pain and require more invasive surgical interventions. Although the prevalence of AWE in post-cesarean section patients is reported to be around 0.03-0.45%, many studies show that numerous cases go unrecognized or do not receive proper medical attention, especially in developing countries.

Although some studies have addressed AWE, few provide a comprehensive picture of the clinical journey of patients diagnosed with AWE, as well as the role of early detection in improving treatment outcomes. The study attempts to fill this gap by delving deeper into the diagnosis, surgical management, and recovery of patients, and by emphasizing the importance of mesh reconstruction of the abdominal wall after major excision to prevent postoperative herniation.

The purpose of this study was to describe the clinical characteristics, diagnostic process, and surgical management in two patients with AWE diagnosed after undergoing cesarean section. This study aims to emphasize the importance of early recognition of AWE in patients with a history of cesarean section and to underscore the benefits of extensive surgical excision with abdominal wall reconstruction to avoid long-term complications.

This study provides new insights into AWE and the importance of early diagnosis. By providing real case examples, it is hoped that it can raise awareness among doctors and other medical personnel to consider AWE as one of the differential diagnoses in patients with complaints related to cesarean sections. In addition, this study provides evidence that appropriate treatment can significantly improve patients' quality of life and reduce long-term complications.

METHOD

This study used retrospective descriptive study with random techniques in sampling on two patients with histopathologically confirmed AWE. Clinical data were collected from medical records in Sentra Medika Hospital in 2025.

RESULTS AND DISCUSSION

A 41-year-old Indonesian woman visited the outpatient clinic due to a gradually enlarging and painful mass in her right lower abdomen, which had been present for the past 14 years. The pain was sharp, cyclical, and worsened during menstruation, interfering with her daily activities. She had no accompanying symptoms like fever, urinary issues, or digestive complaints. Her surgical history included two caesarean sections, the last one fifteen years prior, and no other abdominal surgeries or pelvic disorders.

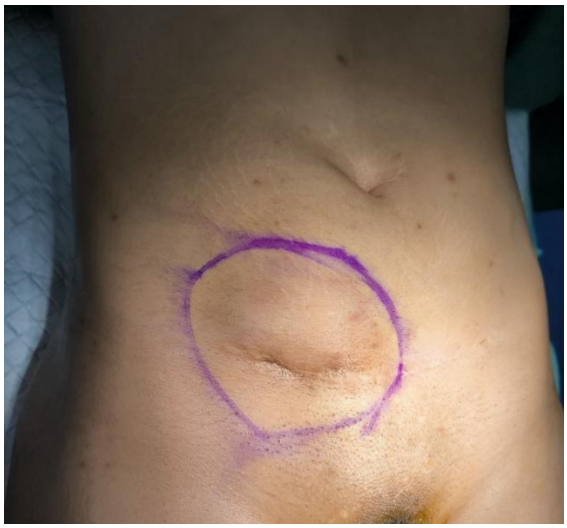

Figure 1. A. Preoperative image showing a palpable mass on the lower abdominal wall with overlying skin marking.

On physical examination, a palpable, firm, non-mobile mass about 9 cm in size, situated near the lateral edge of her previous Pfannenstiel incision. (Fig 1) Contrast CT imaging revealed a soft tissue lesion measuring 8.6 × 3.2 × 3.9 cm, extending from the right rectus abdominis muscle into the subcutaneous fat in the suprapubic area. (Fig 2)

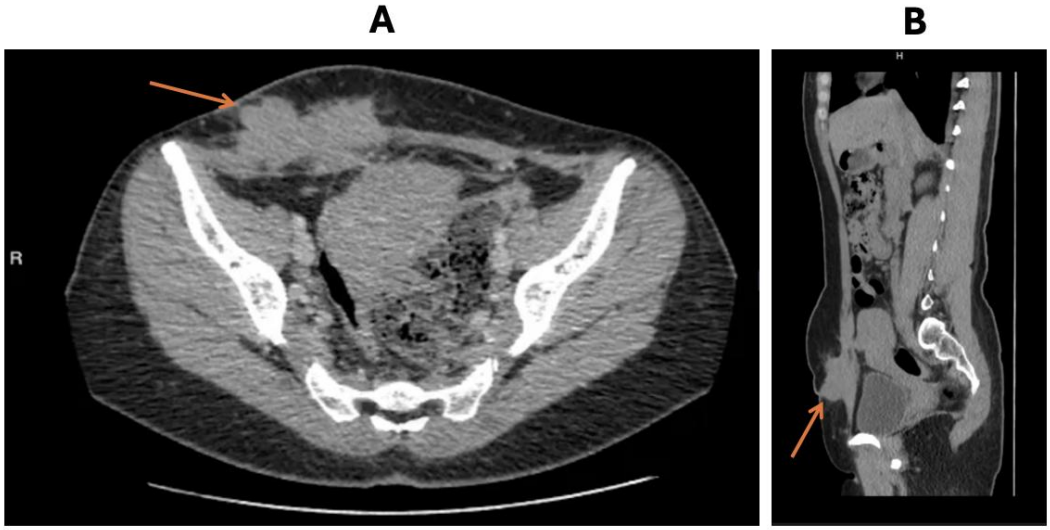

Figure 2. Axial (A) and sagittal (B) CT images demonstrating a soft tissue mass (8.6 × 3.2 × 3.9 cm) arising from the right rectus abdominis and extending into suprapubic subcutaneous fat.

Surgical management was planned, and the patient underwent wide local excision under general anesthesia. The surgical incision was made over the previous cesarean scar and extended laterally to provide adequate exposure. Intraoperatively, a solid, fibrotic mass was identified embedded within the rectus muscle fibers and adherent to the surrounding fascial planes. (Fig 3)

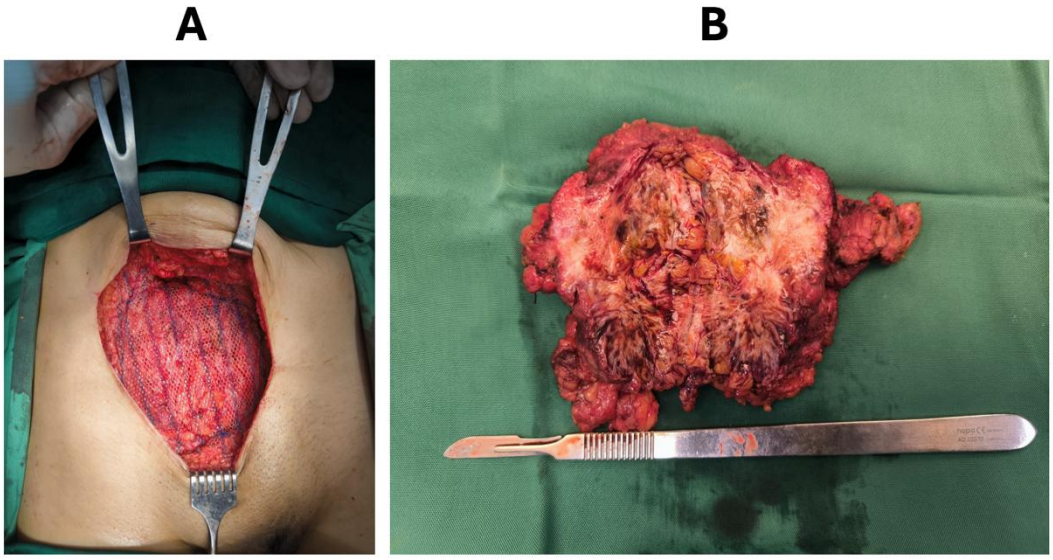

Figure 3. (A) Abdominal wall defect post excision, reconstruction using mesh. (B) Gross specimen of a large endometriotic mass, measuring approximately 10 x 9 x 5 cm with firm consistency.

A complete excision was achieved with wide margins, and given the resulting fascial defect, a polypropylene mesh was placed to reinforce the abdominal wall and prevent postoperative herniation. (Fig 3) Histopathological findings confirmed abdominal wall endometriosis with the tissue specimen consists of fibrous tissue and adipose tissue, within which endometrial glands and stroma are observed among the fibrous components. (Fig 4) No malignancy was detected. The patient's recovery was uneventful, with good pain control and no postoperative complications, allowing for discharge on the three day with oral antibiotics for five days and wound care instructions.

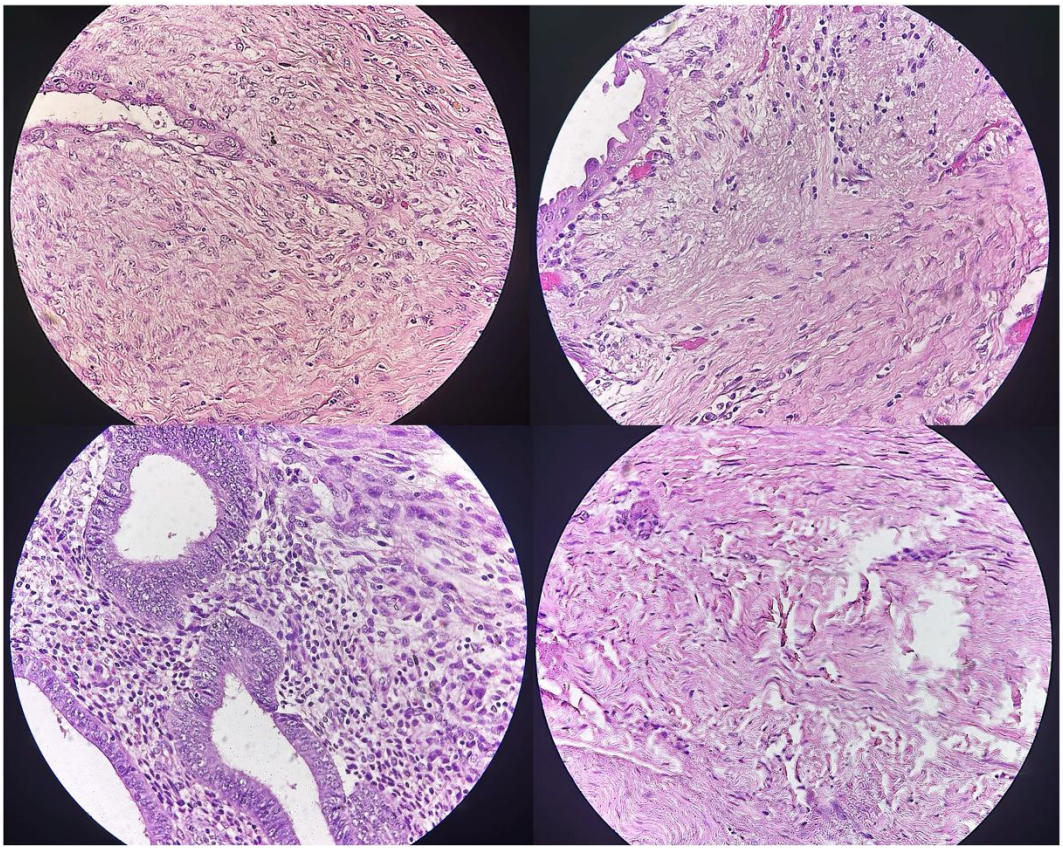

Figure 4. Histopathological sections with Hematoxylin and Eosin (H&E) showing endometrial glands and stroma within the abdominal muscle, consistent with endometriosis.

A 44-year-old woman from Indonesia reported a painful swelling in the right lower abdomen that had developed and grown gradually over seven years beneath her caesarean section scar. The discomfort was cyclical, worsening with menstruation, and eventually limited her ability to walk and perform routine tasks. She had one prior caesarean section eight years earlier with Pfannenstiel incision and had no history of hormonal therapy or endometriosis.

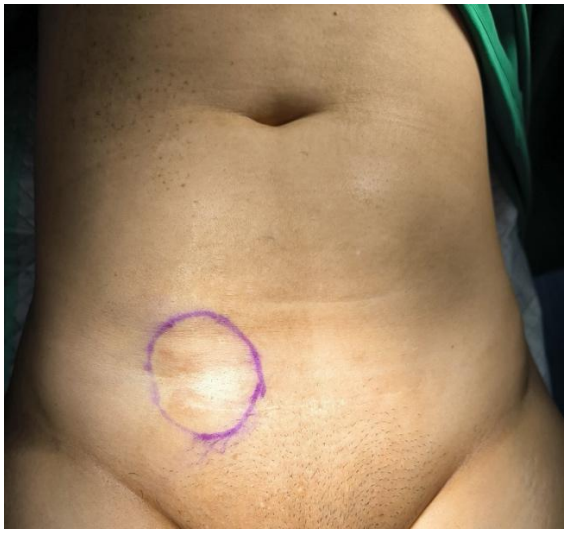

Figure 5. A. Preoperative marking of a palpable lower abdominal wall mass.

Physical examination identified a palpable, deep, tender, non-mobile mass about 10 cm beneath the left edge of the caesarean scar (Fig 5). There were no signs of infection or skin changes. Contrast CT of the abdomen and pelvis showed a well-defined soft tissue lesion measuring 8.2 × 4.6 × 4.5 cm within the right rectus abdominis, extending into the subcutaneous tissue of the suprapubic area (Fig 6).

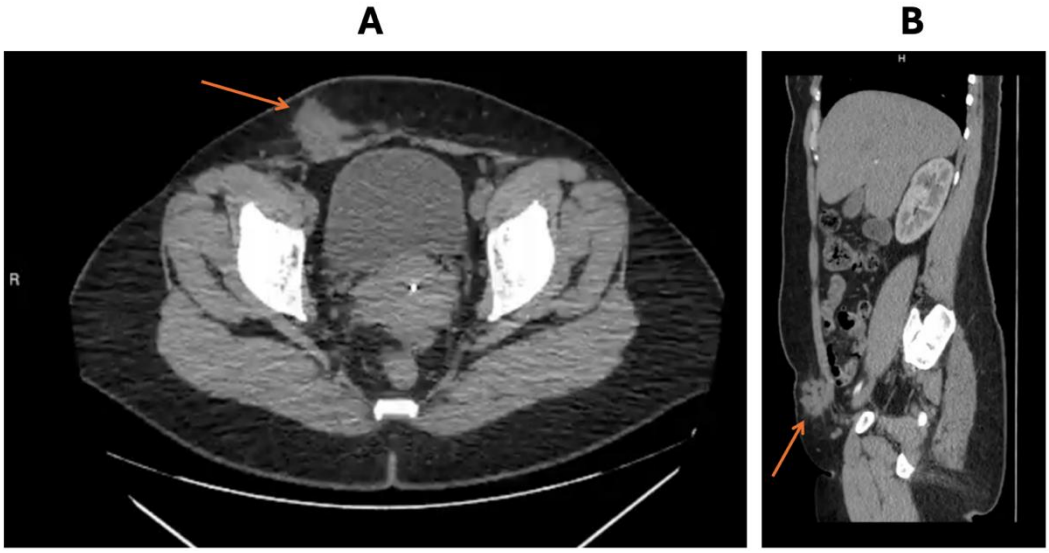

Figure 6. Axial (A) and Sagittal (B) CT scan showing a soft tissue mass (8.2 × 4.6 × 4.5 cm) involving the right rectus abdominis and projecting into suprapubic subcutaneous tissue.

The patient subsequently underwent surgical exploration and excision. A transverse incision was made over the previous caesarean scar. Intraoperatively, a large, well-vascularized mass was found infiltrating the rectus abdominis muscle and partially extending to subcutaneous tissue. The mass was excised with an adequate margin of surrounding tissue. Given the size of the defect, a polypropylene mesh was applied to reinforce the abdominal wall and prevent potential herniation. (Fig 7)

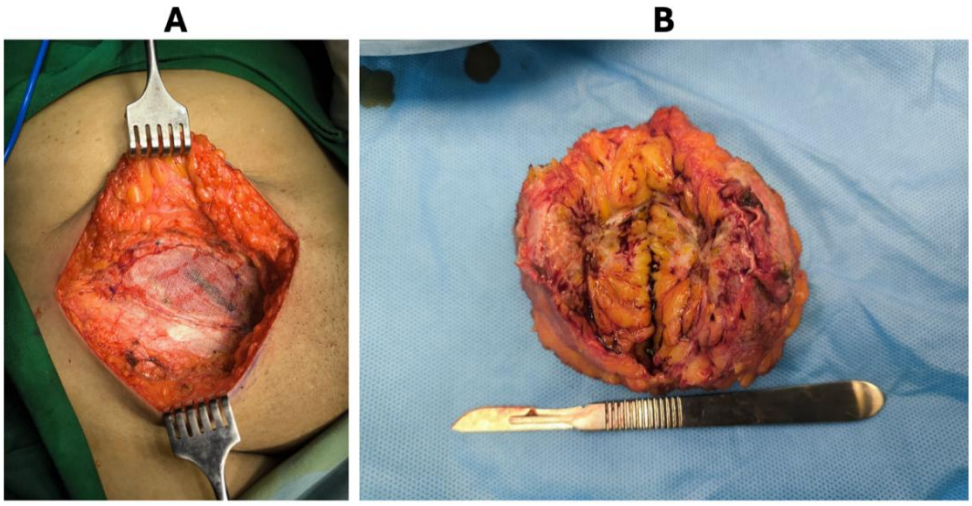

Figure 7. (A) Abdominal wall defect post wide excision, reconstructed with. (B) Excised mass measuring approximately 10 x 9 x 5 cm with firm consistency, fibrotic and hemorrhagic appearance

Histological evaluation the abdominal wall tissue specimen shows endometrial glands and stroma interspersed within fibrous and adipose tissue, confirming the diagnosis of abdominal wall endometriosis (Fig 8). No malignancy was observed.

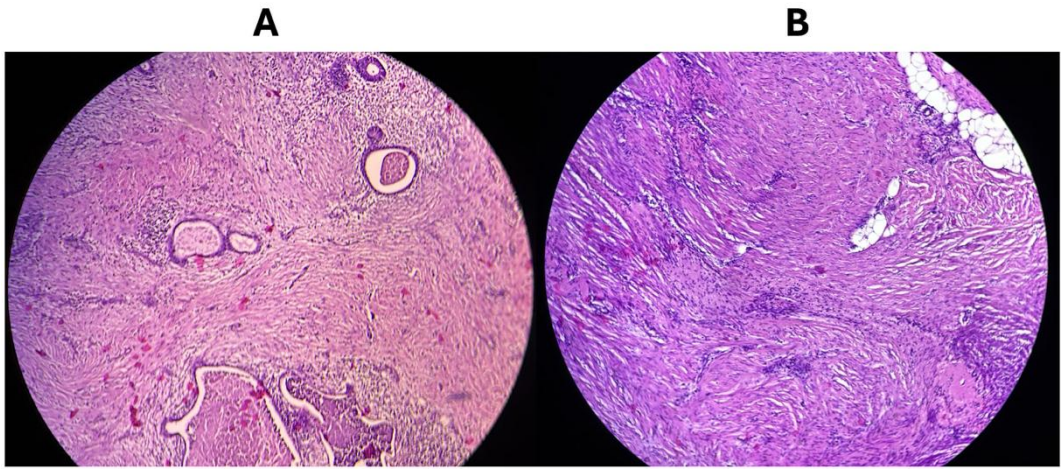

Figure 8. (A) H&E : Section showing endometrial glands and stroma within the abdominal muscle. (B) H&E : High-power-field view highlighting the presence of endometrial glands and surrounding stroma.

The postoperative course was uneventful; the patient was mobilized early and discharged on postoperative three days with oral analgesics and prophylactic antibiotics.Abdominal wall endometriosis (AWE) is an uncommon manifestation of extra-pelvic endometriosis and often occurs following gynaecologic surgery, particularly cesarean section, with a prevalence of approximately 2% and a reported post-caesarean incidence of 0.03–0.45% (Biegel et al., 2024).

AWE typically presents with a characteristic clinical triad: a painful mass localized near a surgical scar, cyclic pain associated with menstruation, and a history of pelvic surgery (Van Varsseveld et al., 2025). In our series, both patients fit this triad precisely, with mass arising in the right lower abdominal wall over prior Pfannenstiel incisions, cyclical pain that correlated with menstruation. Several studies have reported that this case often leads to leading to delayed diagnosis or misclassification as other abdominal wall pathologies such as lipoma, suture granuloma, or desmoid tumor (Fernicola et al., 2025; Zhang et al., 2024).

CT and MRI imaging modalities have proven beneficial in assessing lesion dimensions, depth of invasion, involvement of adjacent structures, and possible local spread. Although tissue sampling via needle biopsy may confirm the diagnosis, there is a recognized risk of iatrogenic seeding of endometrial cells along the needle tract. Wide-margin surgical resection remains the cornerstone of therapy, as achieving complete excision with recommend margins 5 to 10 mm is essential to minimize the risk of recurrence (Alaert et al., 2024; Benedetto et al., 2022; Triantafyllidou et al., 2023)

In our series, both patients underwent resection of the mass with adequate margins. Given the size (>5 cm) and depth of invasion into the muscle layers, abdominal wall reconstruction using polypropylene mesh was performed to prevent fascial weakness and postoperative hernia. This approach is supported by recent case series and systematic reviews recommending mesh reinforcement in large or full-thickness defect (Takaya et al., 2022).

Although AWE is histologically benign, malignant transformation most often into clear cell carcinoma or endometrioid carcinoma has been reported in up to 1% of cases, particularly in long-standing or untreated lesions (Jia et al., 2025). This emphasizes how crucial early diagnosis and effective treatment are.Chronic pain and diagnostic delays associated with AWE can significantly diminish a patient's quality of life.

This pain often limits mobility and daily function, especially during menstruation. Misdiagnosis and prolonged clinical workups contribute to psychological stress, including anxiety and frustration. Many patients also report dyspareunia and sexual dysfunction, further impacting emotional well-being and relationships. Following surgical treatment, both patients in our series showed significant symptom relief and functional improvement, highlighting the need of early detection and prompt excision (Christina et al., 2023; Pirš et al., 2024).

CONCLUSION

Abdominal wall endometriosis (AWE) must be considered in women presenting with cyclical abdominal wall pain and a history of cesarean section, as it is frequently misdiagnosed due to overlapping differential diagnoses such as desmoid tumors, hernias, lipomas, hematomas, or suture granulomas. Awareness of its hallmark features—particularly cyclical pain and a palpable mass near a surgical scar—is essential to prevent misdiagnosis, reduce diagnostic delays, and minimize prolonged morbidity while enhancing patient quality of life. Wide surgical excision with adequate margins (5-10 mm) and abdominal wall reconstruction using polypropylene mesh remains the definitive treatment, yielding favorable outcomes. For future research, prospective multicenter studies could investigate the long-term efficacy of mesh reconstruction in preventing postoperative herniation and recurrence rates across diverse populations, including those in developing countries where access to early diagnosis may be limited.

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