

CASE REPORT

Rectus Abdominis Muscle Endometriosis

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ABSTRACT

Endometriosis is characterized by an abnormal existence of functional endometrial tissue outside the uterine cavity, typically occurring within the pelvis of women in reproductive age. We report two cases with endometriosis of the abdominal wall; the first one in the rectus abdominis muscle and the second one in the surgical scar of previous caesarean incision along with the rectus abdominis muscle. Pre-operative evaluation included magnetic resonance imaging. The masses were dissected free from the surrounding tissue and excised with clear margins. Diagnosis of the excised lesions were verified by histopathology.

Key Words: Endometriosis. Abdominal wall. Rectus abdominis muscle. Scar. Surgery.

INTRODUCTION

The classic definition of endometriosis is the presence of endometrial glands and stroma outside the uterine cavity, responsive to hormonal stimulation. The most common implantation sites are ovaries, posterior Cul-De-Sac, ligaments of the uterus, pelvic peritoneum, and rectovaginal septum.^{1,2} Endometriosis has a prevalence of 2 - 22% in asymptomatic women, 20 - 50% in infertile women and 40 - 50% in those with chronic pelvic pain.³ Definite diagnosis is made by verification of lesions by histopathology. Common symptoms of endometriosis include dysmenorrhea, dyspareunia, menstrual irregularities and infertility problems.³

Endometriosis may also occur in extrapelvic sites in almost all organs and body cavities such as inside the abdominal wall which is generally reported in a previous surgical scar.^{1,2} Rectus abdominis muscle endometriosis without pelvic lesions is a very rare event and up-to-date 19 cases have been reported in medical literature. We report 2 cases of endometriosis located in the rectus abdominis muscle.

CASE REPORT

Case 1: A 29 years old woman was referred to our gynecology clinic with abdominal pain. Pain was ongoing for the last 7 months with exacerbation of symptoms during menstruation. There was no sign of endometriosis such as dyspareunia and dysmenorrhea.

The patient had 4 deliveries, 3 of these via caesarean sections and the last operation was performed 3 years ago. Gynecological examination and transvaginal sonography were negative for the signs of endometriosis. On abdominal examination, a barely palpable, approximately 0.5 cm painful mass was found to be located in the left-lower quadrant of the abdominal wall on the left side of the rectus abdominis muscle unrelated to the previous caesarean scar. There was no color change or temperature rise in the mass.

An abdominal wall ultrasonography supported endometriosis settled in the rectus abdominis muscle which was vascularized at the periphery of the lesion on power doppler. Subsequently, pelvic Magnetic Resonance Imaging (MRI) was performed to clarify the diagnosis and determine the exact location of the mass. The mass was described as 4 x 8 mm sized, fuzzy and located in the middle section of the left rectus abdominis muscle. There was a hemorrhagic area which was hyperintense in T1W and T2W and fat-set gradient echo images. The lesion did not show any enhancement in post-contrasted series. The patient's laboratory results (general blood count and serum biochemistry) were all within the normal range with no sign of infection.

The patient underwent an explorative incision at the location of the mass. The mass was excised en-bloc with a small part of transverse fascia that was attached to the mass. Grossly, the lesion was an irregularly shaped tissue with barely recognizable cystic spaces and brown colored fibrous areas with some fresh hemorrhagic foci. On microscopic examination, sections revealed a few foci comprising adenoid structures, some cystically dilated, with pseudostratified endometrial epithelium surrounded by discernible endometrial stroma. These foci had some fibrous tissue around them, containing hemosiderin-laden macrophages admixed with elements of striated muscle (Figure 1 and 2). No medical treatment was prescribed and the patient was externalised with no further complications.

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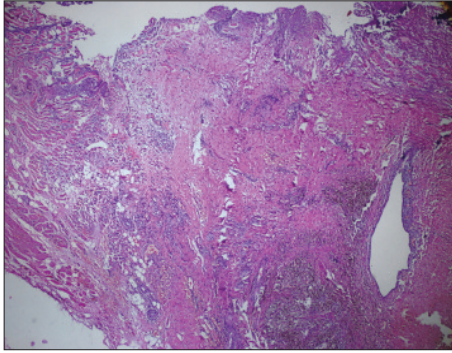


Figure 1: An endometriotic focus from case 1, having a somewhat dilated endometrial gland with recognizable endometrial stroma (on the right). On the left striated muscle tissue elements can be seen. H&E x 10.

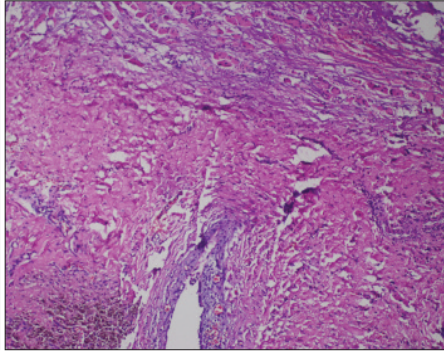


Figure 2: Higher power view of the section in Figure 1. Endometriotic gland (bottom), striated muscle tissue (uppermost) and intervening fibrous tissue can be seen more clearly. H&E 20.

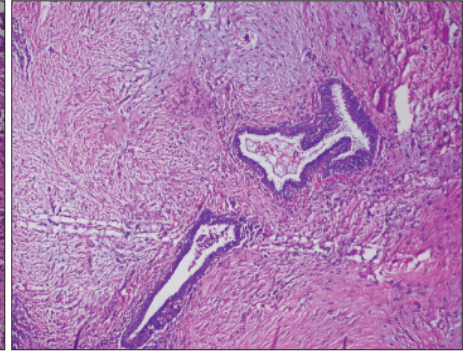


Figure 3: An endometriotic focus from the case 2. Prominent reactive myxoid tissue surrounds glands lined by endometrial epithelium, some with findings of recent hemorrhage. H&E x 20.

Case 2: A 31 years old woman presented with a 3-year history of cyclic, painful swelling in her caesarean scar. On physical examination, the patient had two sensitive nodules measuring about 2 cm each, one at the left end of her abdominal incision and the other one in the midline of the pfannenstiell incision. The patient stated that she had actually noted these small lumps in her caesarean scar 3 months after her last caesarean section. She had history of one vaginal delivery and 3 caesarean deliveries. Gynecological examination and transvaginal sonography were negative for the signs of endometriosis or any other pathology. Abdominal wall ultrasonography of the mass was compatible with endometriosis. For further evaluation, pelvic MRI was performed which demonstrated a hypointense, increasingly contrast dyed lesions of 14 mm in dimension at the left edge of the scar within subcutaneous fatty tissue and additionally a 10 - 12 mm sized intramuscular mass on T1 as well as T2 weighted imaging and both of them showing hyperintense signals compatible with endometriosis. Post contrast series showed enhancement. Hematologic and blood biochemistry results were normal with no sign of inflammation. There was not any evidence supporting the possibility of a soft tissue neoplastic growth nor an inflammatory process.

Ultimately surgery was planned as a choice of treatment. Abdominal skin was re-incised along the latest incision's left side, subcutaneous layer was dissected to liberalize the mass and excised totally with clear margins. Subsequently, the second lump underlying the transverse fascia was excised en-bloc with a small portion of surrounding abdominal wall musculature. Musculature and fascial defect were closed primarily. The pre-diagnosis was verified by histopathologic evaluation of two specimens. On pathologic examination, microscopic findings were similar with the previous case. However, in sections, this case exhibited prominent endometrial stroma around adenoid spaces and more myxoid fibrous tissue around them (Figure 3).

DISCUSSION

Endometriosis is a common disorder mostly seen within the pelvis in the reproductive period which was defined in the ovaries firstly by Russel in 1899.⁴ The histopathologic description is the existence of functional endometrial tissue outside the uterus.

Several theories have been reported for the formation of extrapelvic endometriosis including metaplasia, retrograde menstruation, venous or lymphatic metastasis and mechanical transplantation into scars due to surgery.⁵ Abdominal wall endometriosis is a rare type of extrapelvic endometriosis which has a causal relationship with surgery such as hysterectomy, episiotomy, appendectomy but particularly caesarean. The onset of clinical findings may occur 1 - 20 years after the initial surgery.⁴ During a caesarean section, endometrial cells may spread through the incision from the uterus and get implanted inside the abdominal incision. Also the existence of ectopic implant may probably be caused by the combination of several factors such as genetic and immunological ones.⁶ A small proportion (20%) of abdominal wall endometriosis is not associated with a previous surgical incision. The most frequent sites of primary abdominal wall endometriosis are the umbilicus, the groin and the skin.⁷ Covering the skin with sterile sheets before the surgery and washing the incision site after surgery is suggested to prevent scar endometriosis.⁸

It is important to suspect endometriosis for the diagnosis. Increase in size or tenderness during menstruation are the signs of the lesion, but not sufficient for diagnosis. Moreover, it may cause a diagnostic dilemma because of atypical presentations such as incarcerated hernia or acute abdomen.⁹ Cyclic bleeding from the endometriotic lesion may be another sign but this was not seen in either of the reported patients.

In abdominal wall endometriosis, malignancy is unlikely, but a small soft tissue sarcoma cannot be readily ruled

out if there is an atypic ultrasonographic examination in which case fine needle aspiration biopsy can be useful pre-operatively.⁴ However, the treatment choice is total excision with negative margins for abdominal wall endometriosis and the surgeon should be careful not to rupture the mass to avoid re-implantation of microscopic remnants of endometrial tissue during surgery.¹⁰ Although recurrence is rare, it may be a result of an inadequate excision and usually occurs within 1 year.⁵ Conversely, medical treatment e.g. oral contraceptives, danazol, gonadotropin releasing hormone analogs and progestogens which were used in the past are generally non-effective. That is why postoperative hormonal therapy is not recommended currently.⁷ The reported cases have undergone surgery with no additional hormonal therapy. Follow-up was performed by trans-vaginal ultrasonography and serum CA-125 levels and currently the results are negative for recurrence.

These cases emphasise the importance of abdominal wall endometriosis which should be a part of differential diagnosis in patients who present with pelvic pain and abdominal mass in women of reproductive age.

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