CASE REPORT

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Endometriosis in Abdominal Fascia Mesh

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ABSTRACT Endometriosis is a common clinical problem in women of reproductive age. Endometriosis usually involves pelvis, peritoneum, ovaries, pouch of Douglas, and uterosacral ligaments, in addition to abdominal wall, albeit rarely. Meshes are frequently implanted today for the purpose of hernia repair. Synthetic mesh placement has been growing in number with an intent of improving success of certain surgical procedures and prolonging treatment response. With increasing use of meshes, however, mesh-associated complications are coming to light. Such complications cover a broad spectrum including chronic erosion, dyspareunia, pain, infection, injury to rectum, bladder, and vessels. Here, we present a case who previously had undergone surgery due to umbilical hernia and was implanted with a mesh for whom total laparoscopic hysterectomy was indicated as she had uterine myoma and menometrorrhagia refractory to medical treatment. During her surgery, mesh infection was suspected upon which excision was performed and pathology report, in turn, revealed endometrioma.

Keywords: Endometriosis; mesh; complications; umbilical hernia; laparoscopy

Endometriosis refers to the presence of endometrial tissue outside of the endometrial cavity.[1] Its symptoms and findings may involve pelvic pain, dysmenorrhea, dyspareunia, infertility, and adnexal mass. Endometriosis in overall population has been reported at a varying prevalence from 10% to 44% among symptomatic and asymptomatic individuals, ovaries being the most common site of involvement.[2] Although genital tract and adjacent organs are predominantly affected, extragenital involvement may also occur with a reported prevalence of 8.9%.[2] Sites of extragenital involvement, in decreasing order of frequency, are bowel, urinary tract, skin, and thorax. Endometriosis with extragenital involvement takes place along with pelvic involvement in 84% of inflicted women.[2] Extragenital endometriosis usually has a pelvic, peritoneal or ovarian manifestation. It may also involve pouch of Douglas, and abdominal wall, the latter to a lesser extent. Medical or surgical treatment might be envisaged for these cases.[3] Several theories have been postulated to explain the cause why endometrial tissue is located outside the uterus which include metaplasia, retrograde menstruation, lymphatic or vascular metastasis, and mechanic implantation during surgery.[4] For instance, incisional endometriomas may arise secondary to hysterectomy, Cesarean section, episiotomy, tubal ligation, insertion of a laparoscopic trocar, or amniocentesis. Endometrial tissue is believed to be inoculated through mechanic implantation.[5]

According to the literature data, incision scar endometriomas most often develop following Cesarean sections and may lead to malignancy.[6,7] In this report, we present a case previously implanted with a mesh due to umbilical hernia which caused endometrioma that we have detected upon pathological investigation of anterior abdominal wall.

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A 49-year-old gravida 3 para 2 woman visited our outpatient clinic complaining of groin pain and drug-resistant menometrorrhagia ongoing for the last 2-3 years. Despite using cyclic progesterone for 6 months between the 15th and 25th days, she did not get any response. She then used levonogestrel intrauterine device for a year. In the detailed history of the patient, hernia repair was performed 7 years ago due to an anterior abdominal wall hernia. She doesn't know the type of the mesh. The patient did not mention any complaints in relation to her past mesh surgery. In transvaginal ultrasonography, multiple myomas with the largest being approximately 4*4 cm were observed. Considering previous abdominal surgery with mesh implantation, open laparoscopic surgery (LS) was planned for the patient. To enable trocar insertion, access through a supraumbilical open LS was attempted. During the course of the entry, discharge of dark color and dense consistency suggestive of intestinal injury was noted and shift to open surgery was decided. All bowel segments were checked and confirmed to be intact. Mesh of the patient was excised out, and hysterectomy was performed (Figure 1). The surgery was completed without any complications.

Respective pathology report indicated the excised mesh. Accumulation of hemosiderin-loaded macrophages as well as new bleeding areas around the cystic dilated endometrial glands (HE, x100).

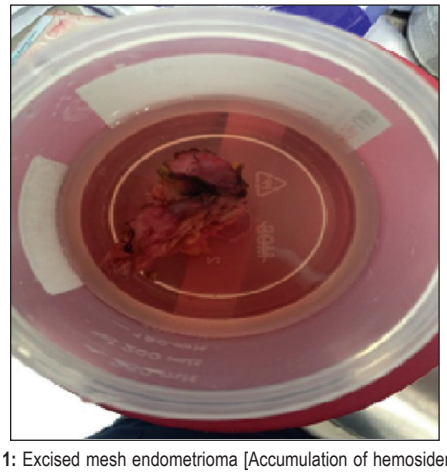

FIGURE 1: Excised mesh endometrioma [Accumulation of hemosiderin-loaded macrophages as well as new bleeding areas around the cystic dilated endometrial glands. (HE, x100)].

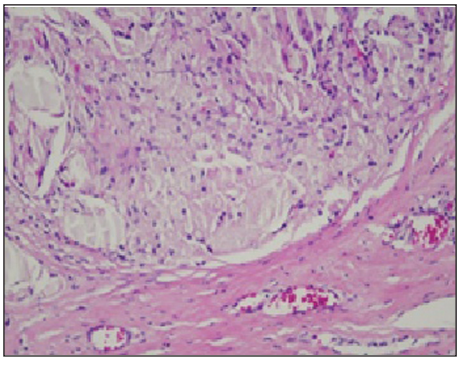

FIGURE 2: Response to foreign body [Area of granulation tissue consisting of histiocytes with foamy cytoplasm and multinucleated giant cells containing foreign body material (HE, x200)].

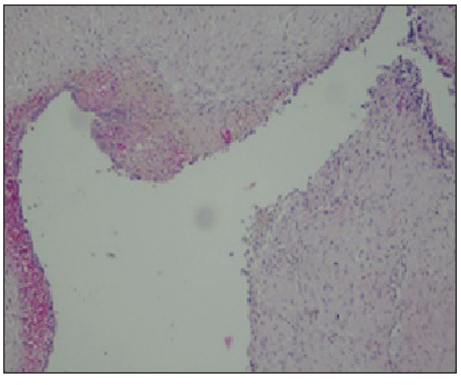

FIGURE 3: Endometrioma (epithelial).

Therefore, endometrioma was considered on the mesh (Figure 1). Area of granulation tissue consisting of histiocytes with foamy cytoplasm and multinucleated giant cells containing foreign body material (HE, x200). This situation made us think of foreign body reaction (Figure 2, Figure 3). In her follow-up appointment 6 months after the surgery, the patient had no relapse of hernia.

DISCUSSION

Endometriosis is described as the presence of endometrial tissue outside the uterine cavity, among various forms of which extra-pelvic manifestation stands for 8.9% of all cases.[8] Abdominal wall endometriosis (AWE) might have cutaneous or subcutaneous location at a site in an incision scar, umbilicus, or rectus abdominis muscle. The risk to develop after Cesarean section is 0.1%.[9] Among 34 women with extragenital endometriosis, 44% had en-

dometriosis along Pfannenstiel incision tract.[10] The theory that most likely explains development of scar endometriosis is direct inoculation of endometrial cells to subcutaneous tissue and abdominal fascia.[10]

Synthetic meshes have a wide range of application in surgical treatment of stress urinary incontinence and pelvic organ prolapse as well as in surgeries for abdominal wall hernia, and hence an increasing rate of use.[11] Intended use of synthetic meshes encompasses substitution for weak supportive tissue, augmentation of insufficient tissue, stimulation of supportive tissue regeneration, and compensation for deficiencies which might be caused by surgical technique.[12] Recent surge to mesh utilization poses a higher risk of mesh-related complications. Chronic mesh erosion, infection, rejection, dyspareunia, and other painful symptoms warranting surgery as well as surgical removal of implant are among the complications documented by an increasing number of papers.[13-14]

In the event of AWE, the cyclical pattern whereby pain worsens and mass size increases during menstruation shall raise suspicion.[15] These leading symptoms are encountered in 50% of patients. Of the reported AWE cases from a study, 63.8% had a history of Cesarean section.[16] Our patient was distinct from formerly reported cases for being asymptomatic regarding endometrioma, without a history of past uterine surgery or endometriosis. Given the tendency of symptom recurrence following medical treatment with drugs such as progesterone and danazol, recommended treatment modality for scar endometriosis is wide excision of the lesion allowing at least 1 cm of circumferential surgical margin.[17] Once resection is completed, mesh repair can be considered where a wide recess is left, or fascia defect is noted.[17] Accordingly, we have implemented total excision with a 1 cm margin of surrounding tissue. We have closed the abdominal layers primarily, without any mesh re-insertion.

In conclusion, while examining the patients particularly those who had undergone surgery presenting with a mass located in the vicinity of incision track, the patients should be queried whether they have any pain deteriorating during menstruation and endometriosis should be kept in mind. It should also be kept in mind, however, that some patients may remain asymptomatic, as in our case, without any history of previous uterine surgery or endometriosis and may develop endometriosis around foreign bodies. In such cases of endometriosis, wide excision should be performed ensuring prevention of surgical recurrences.

Informed Consent

The patient whose story is told in this case report signed permission for its publication.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Mehmet Ferdi Kıncı, Özge Şehirli Kıncı;* ***Design:*** *Mehmet Ferdi Kıncı, Mehmet Onur Arslaner;* ***Control/Supervision:*** *Ahmet Akın Sivaslıoğlu, Ezgi Karakaş Paskal;* ***Data Collection and/or Processing:*** *Ezgi Karakaş Paskal, Özge Şehirli Kıncı, Melek Ünçel;* ***Analysis and/or Interpretation:*** *Ahmet Akın Sivaslıoğlu;* ***Literature Review:*** *Ezgi Karakaş Paskal, Özge Şehirli Kıncı;* ***Writing the Article:*** *Mehmet Ferdi Kıncı, Mehmet Onur Arslaner, Melek Ünçel;* ***Critical Review:*** *Ahmet Akın Sivaslıoğlu;* ***References and Fundings:*** *Mehmet Onur Arslaner, Mehmet Ferdi Kıncı;* ***Materials:*** *Mehmet Ferdi Kıncı, MehmetOnur Arslaner, Melek Ünçel.*

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