CESAREAN SECTION SCAR ENDOMETROSIS

ENDOMETRIOZA NAKON CARSKOG REZA

Goran MALENKOVIĆ¹,², Sanja TOMIĆ¹ and Bratislav STOÍLJKOVIĆ²

Summary

Endometriosis is defined as a functional endometrial tissue outside the uterine cavity. The ectopic endometrial tissue has been identified after gynecologic laparoscopy or laparotomy procedures in the skin, subcutaneous tissues, abdominal and pelvic wall musculature, and it represents amayar cause of acute or chronic recurrent abdominal or pelvic pain resembling the menstrual cycle. The frequency of abdominal wall endometriosis is approximately 1% of all women who had a cesarean delivery. A 39-year-old patient with a history of one prior Cesarean section, presented with continuous cyclical focal pain at the left part of cesarean scar site for the past 16 months, 23 months after Cesarean section. The patient underwent a mini laparotomy, when the abdominal wall defect was reconstructed by suturing by anatomical layers from the muscle, and it was completely surgically removed (Figure 1). The abdominal wall defect was reconstructed by suturing by anatomical layers from the depth to the surface. Macroscopic histopathological examination showed two fragments of pink-brown tissue, whose total weight was 6 g, with blurred surfaces, designated as parts of the abdominal wall, with colorful cross-section appearance, sinewy-elastic consistency and vague structure (Figure 1).

Histological examination of the sample material revealed numerous and confluent focuses of endometrial mucosa in the form of dilated endometrial glands, surrounded by stromal cells with regular morphological features (Figure 2).

In some places signs of fresh and old hemorrhage were observed, intraluminal as well as periglandular, which induce the production of fibrous tissue (Figure 3).

Freshly produced fibrous tissue, in the form of anastomosed strips, surrounds the muscles of the anterior abdominal wall, performing their progressive destruction (Figure 4).

The PH diagnosis was based on the presence of all elements of the endometrial mucosa (glands, stroma and signs of fresh and old hemorrhage) in an inadequate place (anterior abdominal wall). Endometriosis is difficult to diagnose and it is often mistaken for other conditions such as a suture granuloma, incisional hernia, primary or metastatic cancer. Endometriosis can be prevented only with good surgical techniques and clinical practice as well as the proper care during primary surgery.

Key words: Cesarean Section; Cicatrix; Abdominal Wall; Endometriosis; Postoperative Complications; Laparoscopy; Diagnosis, Differential; Ultrasonography

A 39-year-old patient with a history of one prior cesarean section presented with continuous cyclical focal pain at the left part of cesarean scar site for the past 16 months, 23 months after Cesarean section. On examination, it was found that the patient had a palpable mass of about 40x30 mm in the left part of healthy Pfannenstiel scar. Ultrasonography showed a subcutaneous nodule of 45x23 mm with irregular borders, having heterogeneous echo texture with internal scattered hyper echoic echoes typical for scar endometriosis. The patient underwent a mini laparotomy by entering abdomen through the previous Cesarean section scar with elevated abdominal flap. An endometrioma involved the right rectus sheath and muscle, and it was completely surgically removed (Figure 1). The abdominal wall defect was reconstructed by suturing by anatomical layers from the depth to the surface. Macroscopic histopathological examination showed two fragments of pink-brown tissue, whose total weight was 6 g, with blurred surfaces, designated as parts of the abdominal wall, with colorful cross-section appearance, sinewy-elastic consistency and vague structure (Figure 1).

Histological examination of the sample material revealed numerous and confluent focuses of endometrial mucosa in the form of dilated endometrial glands, surrounded by stromal cells with regular morphological features (Figure 2).

In some places signs of fresh and old hemorrhage were observed, intraluminal as well as periglandular, which induce the production of fibrous tissue (Figure 3).

Freshly produced fibrous tissue, in the form of anastomosed strips, surrounds the muscles of the anterior abdominal wall, performing their progressive destruction (Figure 4).

The PH diagnosis was based on the presence of all elements of the endometrial mucosa (glands, stroma and signs of fresh and old hemorrhage) in an inadequate place (anterior abdominal wall). Endometriosis is difficult to diagnose and it is often mistaken for other conditions such as a suture granuloma, incisional hernia, primary or metastatic cancer. Endometriosis can be prevented only with good surgical techniques and clinical practice as well as the proper care during primary surgery.
Endometriosis is a common gynecologic problem in women of reproductive age. As a benign disease, endometriosis is characterized by the normal endometrial tissue outside the uterine cavity. 

Discussion

Endometriosis is a common gynecologic problem in women of reproductive age. As a benign disease, endometriosis is characterized by the normal endometrial tissue outside the uterine cavity.

Extrapelvic endometriosis can be found intra-abdominally as well as in the abdominal wall. Endometrioma of Cesarean section scars are the most common site of anterior abdominal wall endometriosis, the incidence going up to 1% of all women who had a cesarean delivery [3, 7].

Cesarean section in the first place as well as increased menstrual flow and alcohol consumption have been determined as risk factors for developing endometriosis in many studies, whereas high parity is considered as protective factor. It is often misdi-

Figure 1. Extrusion of the anterior abdominal wall fragment diffusely permeates the zones of hemorrhage and fibrosis

Figure 2. Confluent endometriosis focuses in the connective tissue of the abdominal wall (HE, 10x10)

Figure 3. Endometrial gland, localized in the connective tissue near the muscular beam, with signs of old stromal hemorrhage (HE, 10x25)

Figure 4. Fibrous destruction of the muscular beam induced by confluent endometriosis zones (HE, 10x25)
Diagnosis of abdominal wall endometriosis is explained by many theories. The most exploited and popular theory is the theory of direct implantation. During the surgical procedure, when the uterine cavity is opened, endometrial tissue is implanted into the surgical scar [9]. When endometrial tissue is implanted, it proliferates under the same hormone influences as the endometrium in the uterus or induces metaplasia of the surrounding fascial tissue and results in endometrioma. Many patients with scar endometriosis do not have signs or a history of peritoneal endometriosis, which supports the theory that it is caused by dissemination of endometrial cells into the wound at the time of surgery [10].

One of the postulates is that primitive pluripotential mesenchymal cells may undergo specialized differentiation to form endometriomas under the right circumstances. Endometriosis of the surgical scar often infiltrates the deeper layers, not only superficial layers of the abdominal or pelvic wall but the rectus muscle as well. The most characteristic clinical symptoms of endometriosis occur at the time of menstruation and include abdominal or pelvic recurrent pain and swelling [11]. Cyclic pelvic pain is usually ill-defined and spreads within the abdominal wall. The noncyclic nature of pain in endometriosis of the abdominal wall is atypical, which may explain why it is clinically often misdiagnosed. Patients also presented with a palpable mass at the site of maximum tenderness in the region of the surgical scar which is usually rubbery to the touch and may be multiloculated, with contents similar to that of chocolate ovarian cysts [12]. Patients also may be asymptomatic, and anterior abdominal and pelvic wall endometriosis can be incidentally discovered at imaging examinations performed for other reasons. Abdominal wall endometriosis may be identified at sonographic and color Doppler examinations, computer tomography, magnetic resonance imaging and sonographically guided fine-needle aspiration.

On ultrasound, abdominal wall endometriosis appears as a solid, heterogeneous hypoechoic mass with inner echogenics pots which is a result of cystic changes due to intralesional bleeding associated with menstruation and fibrous components of the lesions. Color Doppler ultrasound may demonstrate vascular- ity, single vascular pedicle or dilated feeding vessels at the periphery of the mass [13]. When compared with computer tomography, magnetic resonance imaging provides better contrast resolution with clear delineation between the muscles and abdominal subcutaneous tissues and infiltration of abdominal and pelvic wall structures in this way provides safe surgical resection [14]. Sonographically guided fine-needle aspiration is a diagnostic procedure which may help to prove a preoperative diagnosis of endometriosis and exclude malignancy. [15, 16]. Histopathological analysis is the only way to make the definitive diagnosis of endometriosis. Diagnosis of endometriosis may only be confirmed on the basis of the presence of endometrial glands and stroma within the lesion [10]. Endometrial ducts lined with cuboidal to columnar cells, surrounded by focal areas of chronic inflammation, fibrous tissue, and hemosiderin with presence of hemosiderin-filled macrophages are highly indicative of endometriosis. Therapeutic options for abdominal wall endometriosis include medical therapy with hormonal agents or surgical excision. Progestogens, danazol, oral contraceptive pills and gonadotropin-releasing hormone (GnRH) analogs have been tried with partial response and recurrence when these drugs are discontinued. Therefore, more definitive treatment - wide local surgical excision with clear margins to prevent local recurrence as the treatment of choice is required [14, 17]. Abdominoplasty and reconstruction with or without polypropylene mesh should be taken into consideration if a defect in the abdominal wall occurs [18]. In cases of continual recurrence and long-lasting recurrence, the possibility of malignancy needs to be ruled out.

Conclusion

Anterior abdominal wall scar endometriosis, after a cesarean section is more frequent than generally assumed, and it is challenging to be diagnosed and treated. It is caused by iatrogenic inoculation of endometriosis into the surgical wound, so with rising Cesarean section rate it may become more common. Clinically it is often misdiagnosed because endometriosis may occur years after the cesarean section. The pain is often noncyclic and there is not always a palpable mass. The sonographic finding of a solid mass in the abdominal wall is not pathognomonic for endometriosis. Only good surgical techniques and clinical practice and proper care during primary surgery may help in preventing endometriosis.

References


Rad je primljen 3. IX 2018.
Recenziran 5. IX 2018.
Prihvaćen za štampu 10. IX 2018.