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Endometriosis cases that occurred at the incision site after cesarean section; Single-center experience

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Abstract

Objective: Endometriosis is the growth of functional endometrial gland and stroma outside the uterine cavity. Scar endometriosis is a very rare disease and is diagnosed by histopathologic examination. Endometriosis may be detected in the scar tissue after a previous gynecological operation. Scar endometriosis is a mass consisting of endometrial glands and stroma that may develop in the incision scar tissue or in the neighborhood after gynecologic procedures performed especially by cesarean section. We aimed to present the patients who had a history of gynecologic surgery, who presented with mass and/or pain complaints especially in the corner regions of the previous incision line, and underwent surgical excision and reported as endometriosis as a result of postoperative pathology.

Materials and Methods: Patients who presented to the general surgery outpatient clinic between September 2018 and December 2019 with complaints of palpable mass, pain and swelling at the edge of the pfannenstiel incision were evaluated. The records of patients who underwent surgery with a preliminary diagnosis of endometriosis and reported as endometriosis as a result of pathology were reviewed retrospectively.

Results: Surgical excision was performed in 14 patients with a preliminary diagnosis of endometriosis. The mean age of the patients was 29.5 (min: 18-max: 39 years). All patients had a history of cesarean section as a history of abdominal surgery. When the pathology results were examined, all the reports were endometriosis externa. In the pathology reports, the mean diameter of the lesion was 25x20x17mm (min: 10- max: 40).

Result: Endometriosis should be considered in patients with a history of palpable mass and pain around the incision site in patients with a history of gynecologic surgery.

Keywords: Endometriosis, cesarean section, pfannenstiel incision, pain

Introduction

Endometriosis is the localization of functional endometrial gland and stromal tissue in other organs except the uterine cavity with the stimulation of ovarian hormones (1). Although the etiology is still unclear, the most common theory is considered as implantation theory. Although the lesions are more frequently located in the pelvic region (peritoneal surfaces of the genital organs and adjacent organs in the pelvis), extrapelvic location (intestines, umbilicus, kidney, lung, nose, liver, pancreas skin and abdominal incision scar) can be seen (2). The incidence of endometriosis varies between 8-15% in women during the reproductive period (3). The incidence of surgical scar endometriosis after cesarean delivery ranges from 0.03% to 0.4% (4).

The most common symptoms in endometriosis cases are abdominopelvic pain, dysmenorrhea, dyspareunia, menstrual irregularity and infertility.

In extrapelvic endometriosis cases, the symptoms are quite different and vary depending on the location. The anterior abdominal wall is a rare localization for endometriosis. It has been reported to occur due to previous operations or more rarely spontaneously (5). Although the most common finding in incisional endometriosis cases is a palpable mass at the surgical incision line, it can be seen in cyclic pain and swelling. Doubt is important in diagnosis. Ultrasonography (USG) comes first in the examination after the anamnesis and physical examination of the patients. USG has no specific definition for endometriosis cases. It is generally seen as a hypoechoic mass image containing heterogeneous echoes. Computed tomography (CT) may be performed for further evaluation. It is important to suspect for the diagnosis of endometriosis. Endometriosis may diagnosed by excisional biopsy in patients with nonspecific symptoms after imaging methods.

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We aimed to present the patients had a history of cesarean section in Southeast Anatolian Region where the birth rate is high, who presented with mass and/or pain complaints especially in the corner regions of the previous incision line and underwent surgical excision and reported as endometriosis as a result of postoperative pathology

Materials and Methods

Between September 2018 and December 2019, patients presenting to the general surgery outpatient clinic of Şanlıurfa Training and Research Hospital with complaints of a palpable mass, pain and swelling on the edge of pfannenstiel incision were evaluated. The records of patients who underwent surgery with a preliminary diagnosis of endometriosis and reported as endometriosis as a result of pathology were retrospectively reviewed. Age, sex, abdominal surgery history, preoperative abdominal and/or superficial USG, abdominal CT and magnetic resonance imaging (MRI) findings and pathology reports of the patients were recorded. Surgery duration, postoperative hospital stay, morbidity and complications within the first 30 days were also determined. Excisional biopsy was performed under local anesthesia and spinal anesthesia. Fascial defects were repaired during the operation and no mesh was used. The patients were discharged without any complications.

Statistical analysis: Statistical Package for the Social Sciences (SPSS 21 Inc., Chicago, IL, USA) computer software was used for bio-statistical analyses. When the data were presented as mean values their standard deviation values were given, when they were presented as median values their minimum-maximum values were also stated.

Results

Surgical excision was performed in 14 patients with a preliminary diagnosis of endometriosis. The mean age of the patients was 29.5 (min: 18-max: 39 years). All patients had a history of cesarean section. It was determined that surgical excision was performed 2.7 years (min: 1-max: 4 years) after cesarean section. None of the patients had comorbidities. Preoperative abdominal and/or superficial USG was performed in all patients before surgical excision. When the abdominal and/or superficial USG reports of the patients were examined, they were reported as hypoechoic or hyperechoic solid lesion, fibroma? or lipoma?. Preoperative abdominal CT was performed in 5 (35.7%) patients (Figure 1). When abdominal CT reports were examined, they were reported as hypodense solid lesion, lymph node? or foreign body?. MRI was performed in 1 (7.1%) patient before surgical excision. MRI was reported as 'T1 hypo and T2 heterogeneous hyperintense weak peripheral contrasting area (infective process?) with 2x1 cm lobulated contour within the rectus muscle'. Local anesthesia was performed in 3 (21.4%) patients and spinal anesthesia was performed in 11 (78.5%) patients for surgical excision. The mean operation time was 26.1 min (min 20-max 35 min). No postoperative surgical complications were observed in any of the patients. The mean length of hospital stay after surgery was 1.14 days (min: 1- max: 2 days). Endometriosis externa was diagnosed after the histopathological examination of the surgical specimens revealed endometrial stroma and glands (Figure 2). In the pathology reports, the mean diameter of the lesion was 25x20x17mm (min: 10- max: 40mm). The demographic, radiological and pathological data of the patients are summarized in Table-1.

Figure 1: Computer tomography (CT) image

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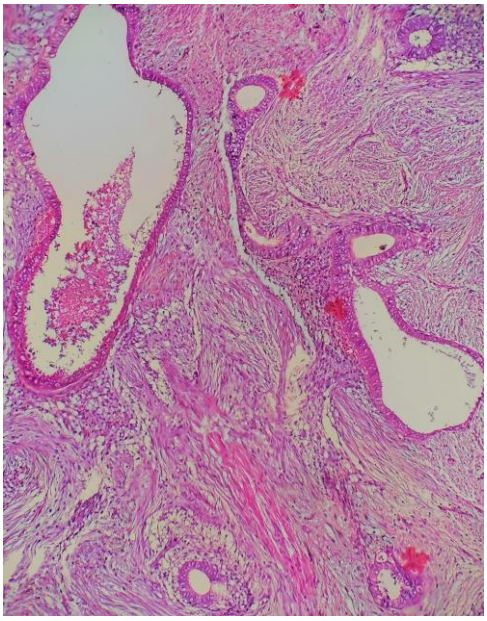

Figure 2: Endometrial glands with hemorrhagic secretion in some cystic enlarged lumens and thin endometrial stroma around them in the fibromuscular stroma (H&E, X100)

Table 1: Demographic, clinical and pathological features of patients

Patient No	Age	Gender	Abdominal surgery history	Preoperative USG findings	Preoperative CT findings	Patology
1	18	F	C/S	32x20 mm smoothly delimited solid lesion (lymph node?)	-	3x3x1 cm endometriosis externa
2	29	F	C/S	35x25 mm smooth surface hypoechoic solid lesion	-	4x2,5x2,5 cm endometriosis externa
3	30	F	C/S	23x12mm hyperechoic solid lesion (lipoma?)	-	2x1,5x1 cm endometriosis externa
4	36	F	C/S	28x14 mm hypoechoic lesion on the anterior abdominal wall (fibroma)	25x15mm hypodense solid lesion on the anterior abdominal wall	2x1,5x1 cm endometriosis externa
5	21	F	C/S	21x10 mm smoothly delimited solid lesion	-	2x1,5x1,5 cm endometriosis externa
6	28	F	C/S	18x10mm hypoechoic solid lesion (fibroma)	18x15mm irregular confined solid lesion on the anterior abdominal wall	2x1,5x1,5 cm endometriosis externa
7	33	F	C/S	32x20mm hypoechoic solid lesion	-	4x3,5x3 cm endometriosis externa
8	39	F	C/S	22x11 mm hypoechoic irregular lesion in rectus muscle	2x1 cm oval lesion in the rectus muscle (foreign body?)	3x2,5x2 cm endometriosis externa
9	36	F	C/S	25x20 mm solid lesion with smooth borders	25x29mm solid lesion on the anterior abdominal wall	3x2x2 cm endometriosis externa
10	25	F	C/S	12x6mm smooth confined hypoechoic solid lesion (fibroma?)	-	2x2x1,5 cm endometriosis externa
11	25	F	C/S	10x6 mm isoechoic lesion (lipoma?)	-	2x1,5x1,5 cm endometriosis externa
12	31	F	C/S	12x5 mm oval shaped hypoechoic solid lesion (lymph node?)	On the anterior abdominal wall11mm lymph node?	2x1,5x2 cm endometriosis externa
13	29	F	C/S	22x14mm hypoechoic solid lesion (lymph node?)	-	2x2x1,5 cm endometriosis externa
14	33	F	C/S	18x9mm hypoechoic solid lesion (lymph node?), Rectus sheath hematoma?	-	2x2,5x2 cm endometriosis externa

Discussion

Endometriosis is the ectopic implantation of endometrial tissue to another location outside the uterine cavity. Several theories have been proposed for the pathophysiology of endometriosis.

It is accepted that the endometrial cells that are poured into the pelvis after retrograde menstruation constitute endometrial focus in the development of pelvic endometriosis.

There are many theories in the development of extrapelvic endometriosis. In the study conducted on experimental animals, the formation of endometrial foci after peritoneal or subcutaneous implantation of the endometrial tissue obtained during menstruation has produced important evidence (6)

Scar endometriosis occurs especially following operations related to the uterine cavity and the basal layer of the endometrium, such as caesarean section, myomectomy, hysterectomy, episiotomy as well as previous abdominal operations such as appendectomy, amniocentesis. It is adjacent to scar tissue in the majority of cases in the literature (7). In our cases, the endometrial foci were foundat the scar line or around 5 cm of the scar line. In the literatüre, there were also cases of abdominal wall endometriosis without a history of the previous operation. In rare cases, there may be an atypical presentation away from the scar line (8).

Anterior abdominal wall endometriosis is rarely seen. The palpable mass, pain in the cyclic menstrual period and the presence of obstetric or gynecological surgical operations in the anamnesis raise suspicion for the diagnosis of endometriosis. Differential diagnosis includes incisional hernia, abscess, granuloma, lipoma, dermoid tumors. Changes in the menstrual cycle and mass size are pathognomonic but may not be observed in all cases. In the anamnesis of the patients, it was seen that there was a painful mass in the incision line especially in the corner.

Leite et al. reported the occurrence of endometriosis at a rate of 0.03-3.5% after obstetric interventions (9). It was reported that 96% of the patients presented with mass, 87% with pain and 57% with symptoms related to the menstrual cycle. In our series, the mean age of the patients was 29.5 years, and anamnesis revealed a mean history of cesarean section 2.7 years (min: 1- max: 4) ago. A palpable mass was found in 57.1% (8 patients) and the pain was present in 100% (14 patients) of all patients. Diagnostic modalities such as USG, CT, MRI and doppler USG can be utilized. USG is the first and most preferred method in diagnosis because it is cheap and easily accessible (10). USG images typically display a hypoechoic mass with heterogeneous echoes.

When the imaging of our cases is reviewed, USG images were reported as ‘hyperechoic solid lesion (lipoma?)’ or ‘uniformly limited hypoechoic solid lesion (lymph node?)’ and CT images are reported as ‘hypodense solid lesion, lymph node? foreign body?’ The main treatment is surgical excision. When surgical excision of extrapelvic endometriosis is not possible, oral contraceptives, danazol or gonadotropin hormone secreting analogs are used in medical treatment. Medical menopause can be achieved in these patients. Symptoms may be regressed with these drugs, but their use is limited due to side effects such as osteoporosis in long-term use and recurrence of symptoms when treatment is discontinued (11). Surgical excision with surrounding intact tissue under spinal or local anesthesia was performed in our patients.

The definitive diagnosis of endometriosis is made by histopathological examination. Endometrial gland and stromal cells as well as hemosiderin-laden macrophages are observed in the examination (10). The diagnosis of endometriosis was confirmed as a result of the pathological evaluation of our cases.

Conclusion

In conclusion, endometriosis should be kept in mind especially in patients with a history of gynecological operation and a palpable mass around the incision site.

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