Recommending Different Treatments as Preventive Measures against Incisional Endometrioma

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Abstract

Objective: To consider incisional endometrioma (IE) as a differential diagnosis of abdominal disorders and to recommend different treatments as preventive measures. Incisional endometrioma (IE), as a rare condition, usually develops in surgical scar of cesarean section or hysterectomy.

Materials and methods: We performed a retrospective review of 12 cases at Department of Surgery, Shahrekord University of medical sciences, Shahrekord from August 2010 to August 2012. The participants were diagnosed with IE using their pathology specimens.

Results: The age ranges were from 23 to 44 years (mean age 32.75 years). A total of 12 patients had previous cesarean sections through a Pfannenstiel incision, which the wound was managed with regular irrigation, but peritoneum was not repaired. The main symptom was an abdominal wall mass about the previous caesarean section surgical scars, associated with cyclic pain. The mean duration of symptoms was 6 to 24 months (mean duration 6.66 months). There was 100% recovery after surgical treatment without any relapse of symptoms during follow-up till now.

Conclusion: We recommend irrigation of the wound with high-jet saline solution before wound closure and repair of peritoneum at the time of cesarean section as a preventive measure.

Keywords: Cesarean Section, Endometrioma, Surgery

Introduction

Endometriosis is the presence of endometrial tissue outside the uterine cavity.. It occurs most commonly in pelvic organs, such as the ovaries, posterior cul-de-sac, ligaments of the uterus, pelvic peritoneum and rectovaginal septum, while it is found in 8%–15% of all menstruating women. Extrapelvic endometriosis is less common, but can affect many tissues, including the lungs, appendix, nose, umbilicus, peritoneum and even the intestinal wall (1).

Cutaneous endometriosis is the most common extra pelvic form of endometriosis, principally in obstetric or gynecologic surgery scars (2) such as cesarean section, hysterectomy, episiotomy and tubal ligation . Whereas it might be occure to be following an amniocentesis needle tract, appendectomy and laparoscopies trocar tract (3,4). Cesarean section as an etiology has an incidence of 0.03- 0.4% (5). Endometrioma is a circumscribed mass (6). It is hypothesis that endometriomas are due to transfer and implantation endometrial cells into the surgical wound.

It is often mistaken as an inguinal hernia, abscess, hematoma, lipoma, sebaceous cyst, incisional hernia,

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suture granuloma, sarcoma, desmoid tumor, lymphoma, or primary and metastatic cancer, diagnosis of this disease is not easy. However, a mass in the scar tissue with symptoms of cyclic pain synchronously with menses and a positive history of cesarean section may be nearly pathognomonic. There are several diagnostic methods for endometriosis, such as: ultrasound, computed tomography (CT), magnetic resonance imaging (MRI), as well as ultrasound-guided fine needle aspiration (7).

This retrospective study reviewed presentation and assessment of incisional endometrioma (IE) in 12 patients; furthermore, the related therapeutic interventions were undertaken by general surgeon at Kashani University Hospital, Shahrekord.

Materials and methods

We performed a retrospective review of 12 cases in Department of Surgery, Shahr-e-kord University of Medical Sciences, Shahr-e-kord, I. R. Iran from August 2010 to August 2012. Participants were diagnosis with IE using their pathology specimens. The following variables were studied from the hospital files and current clinical assessment for each patient: age, symptoms, character of tumor, time of cesarean section, type of incision, initial diagnosis, diagnostic modalities, work-ups, current operation, management, and results of treatments. Also, an informed consent was obtained after the case was discussed with the patients and their families.

Results

In our case series, ages ranged from 23 to 44 years (mean age 32.75 years). A total od 12 patients had previous cesarean sections through a Pfannenstiel incision; however, before wound closure, vigorous irrigation of wound with high jet solution or repairmen of peritoneum at the time of cesarean section was not applied for any of patients. Nine patients experienced the cyclic pain in the scar of incision. Three patients had the cyclic pain, increasing during menses, but did not occur between cycles. Only, two patients had cyclic echymosis about mass. None of the women had a history of pelvic endometriosis or secondary infertility. Among participants with history of a cesarean section, six had two cesarean deliveries, and three had three cesarean deliveries. Time between cesarean section and symptoms was ranged from 6 to 24 months (mean duration 16.66 months). All patients were presented with single mass in the lower abdomen, while seven in left side, three in right, and two in middle of incision. The size of the excised endometriomas ranged from $3cm^3$ to $7cm^3$ (mean= 3.78). Sonography confirmed the endometrioma in 12 patients, whereas the lesion could not be found in two cases. In sonography, five lesions were confined to the fascia, four lesions were located in the subcutaneous fat, and three lesions infiltrated through both of these layers. None patients were initially treated with hormone therapy.

Finally, all patients underwent surgery with general anesthesia and complete excision of the masses for definitive diagnosis and treatment. At surgery, the size and location of the endometriomas were similar to the sonographic repot. Patients had 100% recovery after surgical treatment without relapse of symptoms or need of hormone therapy during follow-up to date (Figure 1).

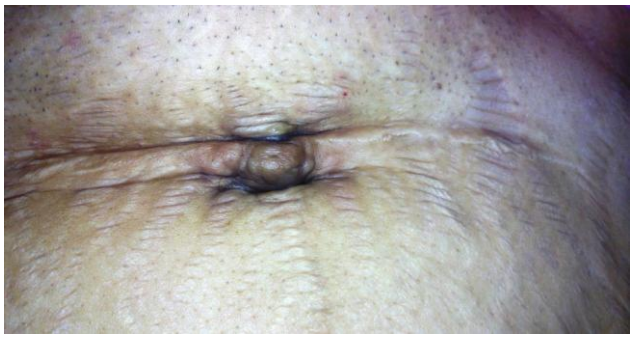

Figure 1: Endometrioma in the middle of the Pfannenstiel incision

Discussion

The pain in endometriosis has been classically described as cyclical; however, in present study the pain was reported to be cyclic only in nine out of 12 patients, while three patients experienced an increase of pain during menses, but no pain between cycles. Almost half of patients in Blanco's study were presented with non-cyclic pain, not related to the menstrual cycle (6).

None of the women in our series had a history of pelvic endometriosis or secondary infertility. The relationship between intrapelvic endometriosis and extrapelvic endometrioma is not clear. Only 26% of patients, experiencing extrapelvic endometrioma, also showed intrapelvic endometriosis (8).

In our series, endometriosis develops from 6 to 24 months (mean duration 16.66 months) postoperatively, but it usually develops from 1 to 20 years postoperatively (9).

In our series, the preoperative diagnosis was correctly made in all twelve patients, but review of the surgical literatures indicates that preoperative diagnosis is often incorrect (10, 11).

All patients had previous cesarean sections through a Pfannenstiel incision, which was the most common site of IE. This may be due to the wider dissection of the tissue planes than the midline incision.

In addition, all patients were presented with single mass in the lower abdomen, while seven in left side, three in right, and two in middle of incision.The left lateral predisposition of intrapelvic ovarian endometrioma is known (12), but extrapelvic endometrioma has not been reported as a preferential position. In this study, there was a predisposition on left side. Since most surgeons are right–handed, washing the left side of the wound may not be properly performed by right handed-surgeons, so it may be considered as a cause of this predisposition.

There are several diagnostic methods for scar endometrioma ; the sonographic appearance of scar endometrioma can be solid, cystic or mixed echo.

Echo pattern may or may not correlate with the menstrual cycle, while sonographic appearance is nonspecific.

Endometrioma usually appears as a circumscribed solid or mixed mass on CT scan that enhanced by contrast ,but when the lesion is small MRI can be more helpful because of high spatial resolution(6).

In present study, sonography showed the endometrioma in 12 patients, whereas the lesion could not be found in two cases in examination. At surgery, the size and location of the endometriomas were similar to the sonographic reports. So, the result has revealed that sonography may be adequate for pre-op evaluation.

The diagnosis of endometria confirms with fine needle aspiration before surgical excision. Although this has been not reported (13), there is a concern that this procedure has the possible to seed the needle tract with cells and causes recurrence,especially in patients with concomitant intrapelvic endometriosis, however the role of needle aspiration cytology is still controversial (14).

In this study, we also performed excision of the abdominal masses, providing both definitive diagnostic and therapeutic intervention.

In our case series, none patients were initially treated with hormone therapy. Medical therapy with Danazol, an antigonadotropin, was used in the treatment of endometriosis because it provided temporary relief of symptoms, but did not ablate the lesion. Recurrence of symptoms is typically happened when there is cessation of the drug (15).

These patients need to be followed up because of the chances of recurrence and they are required to have re-excision. In cases of continued recurrence, possibility of malignancy should be ruled out (16). We followed our patients and there was no relapse of symptoms till now.

After studying the hospital file of our patients, we noticed, before wound closure, vigorous irrigation of wound with high jet solution or repairmen of peritoneum at the time of cesarean section was not applied for any of them. Irrigation of the wound with high-jet saline solution before wound closure can reduce risk of endometrial cell implantation.

Finally, according to the recent hypothesis, endometriosis may be due to an inadequate immune response of the peritoneal defensive system to the retrograde flow or implantation of endometrial tissue (17).

As ectopic endometrial tissue can theoretically undergo malignant transformation, the frozen section and histologic evaluation is necessary. We did not perform the frozen section, but after histological evaluation, no malignancy was fortunately reported in our patients.

Conclusions

Due to increasing numbers of cesarean sections, incisional endometrioma (IE) becomes more frequent. Therefore we recommend either irrigation of the wound with high-jet saline solution before wound closure, or repair of peritoneum at the time of cesarean section as a preventive measure. The frozen section is necessary during the operation due to the possibility of malignancy in abdomen incision endometriosis.

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