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Abdominal wall endometriosis in cesarean section scar: A case series of six patients

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Abstract

Background: Surgical scar endometriosis is a subtype of extra-pelvic endometriosis that is characterized by the formation of endometrial gland and stroma near the incision site in patients who have previously undergone surgery. In recent times, with the increasing trend in Caesarean sections, the incidence of surgical scar endometriosis has also emerged. But early diagnosis usually leads to a good prognosis. **Methods:** The article is a case series; therefore, no specific methods have been applied. Results: Here we present six cases of endometriosis in the cesarean section scar that we have encountered in Gazi Medical College Hospital, Khulna, in the last 4 years (Jan 2020-Dec 2023). **Conclusion:** Abdominal wall endometriosis should be considered in the differential diagnosis of masses located at cesarean section incision scars, which should be excised for definitive diagnosis and treatment.

Keywords: Cesarean section, Endometriosis, Scar.

Introduction

Endometriosis is a gynecological condition where the endometrial glands and stroma are found outside the uterus. It mainly affects women of reproductive age.[1] Endometriosis occurs most often in the pelvis, on the surface lining of the pelvic cavity, peritoneum, ovaries, posterior cul-de-sac, and uterosacral ligaments. Sometimes endometriosis is found in the areas of the body that are not associated with the pelvic organs; we term it as extra-pelvic endometriosis. It can also arise from scar tissue, especially after a cesarean section.[2]

The most accepted cause is mechanical iatrogenic implantation. Endometrial cells are inoculated directly into the surgical area and can progress to endometriosis in optimal conditions. Various clinical symptoms can arise due to the proliferation of these cells under the influence of female hormones. The most common clinical symptoms and signs are swelling, tenderness at the local site, and cyclic pain. Wide excision with surrounding clear margins, followed by histopathological confirmation, is the treatment of choice.[3]

Materials and methods

A case series of six patients who underwent surgical management for Caesarian section scar endometriosis in the obstetrics and gynecology Department of Gazi Medical College Hospital, Khulna, in the last 4 years (from January 2020 to December 2023). All patients were informed about surgical management, and written informed consents were obtained.

All patients had a history of previous cesarean section, and their initial cesarean sections were performed in different hospitals. After the clinical assessment, the diagnosis was suspected by ultrasonography.

We performed excisional biopsy in all cases with a wide excision margin. In all cases, the definitive diagnosis was confirmed by the histopathological examination.

All patients were operated on under spinal anesthesia. Age, C/S operation number, symptoms, size of the lesion, and laterality were evaluated.

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Results

This study includes the medical records of six patients who underwent surgical treatment for CSE. Based on medical records, a Pfannenstiel incision had been performed for cesarean section in all patients.

The mean age was 29.5±6.66 years (range from 23 to 42 years). The common complaint of the patients was pain and a palpable mass under the incision scar. Five patients suffered from cyclical pain. Noncyclic pain was seen in one patient, and four patients had experienced the enlargement of the nodule during the menstrual period. Four patients developed it after 1st cesarean section.

The preoperative diagnosis was correct in all patients.

All of the patients were treated surgically. Almost all the nodules were excised easily.

The diameter of the endometriotic lesions ranged from 3 to 7 cm in size. All patients had completely recovered without relapse of symptoms. The follow-up period was 6 months.

No recurrence was observed during the follow-up period.

Table 01: Demographic features, history and operative findings

No of C/S	Age	Lesion's location	Size of the lesion	Chief Complains
1st C/S	23 yrs	right lateral C/S scar	3 × 2.5 cm	Cyclical pain and swelling
1st C/S	25 yrs	right lateral C/S scar	3 × 2.5 cm	Cyclical pain and swelling
1st C/S	28 yrs	left lateral C/S scar	5.5 × 3 cm	non-cyclical pain, swelling and itching
1st C/S	30 yrs	Midline C/S scar	7 × 3.5 cm	Cyclical pain and swelling
2nd C/S	29 yrs	right lateral C/S scar	5 × 3 cm	Cyclical pain and swelling
3rd C/S	42 yrs	left lateral C/S scar	4 × 2.5 cm	Cyclical pain, dysmenorrhoea and swelling

Table 02: Age of the patients

Age	Mean (SD)	Median	Min	Max	N
	29.5(6.66)	28.5	23	42	6

Table 03: Median Age of the patients

Age median	First C/S operation (n = 4)	Second C/S operation (n = 1)	Third C/S operation (n = 1)	N	P
	26.5	29	42	6	0.29

Table 04: Distribution of the lesions

Lesion's location	First C/S operation (n = 4)	Second C/S operation (n = 1)	Third C/S operation (n = 1)	N
Right lateral C/S scar	2 (50%)	1 (100%)	0 (0%)	3
Left lateral C/S scar	1 (25%)	0 (0%)	1 (100%)	2
Midline C/S scar	1 (25%)	0 (0%)	0 (0%)	1

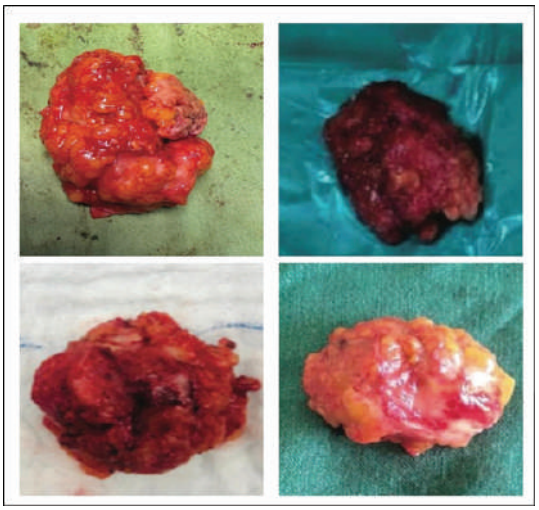

Figure 01: Excised scar endometriotic tissues

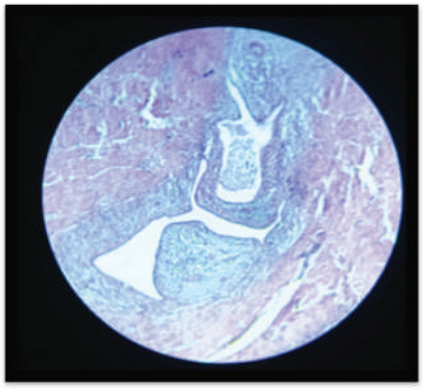

Figure 02: Photomicrograph showing scar endometriosis. (Hematoxylin & Eosin stain x400)

Discussion

Endometriosis is defined as the presence of endometrial glands and stroma outside of the uterine cavity.[4] Depending on the area where it develops, endometriosis is characterized as endopelvic or extra-pelvic. Endopelvic endometriosis is more common and it can develop in different structures such as ovaries, pelvic peritoneum, recto-uterine pouch, utero-sacral ligaments, cervix, vagina and round ligament. Although rarely, endometriosis may also occur in extra-pelvic structures, including the abdominal wall, urinary and gastrointestinal tract, skin, brain, and lungs.[5,6] Abdominal wall endometriosis that develops at the site of the surgical incision after obstetric or gynecological surgeries, including cesarean section, is called scar or incisional endometriosis.[7]

The symptoms and signs of scar endometriosis may be ambiguous. Thus, it can be misdiagnosed as a hernia, lipoma, or hematoma.[8] Because patients with scar endometriosis generally have complaints of cyclic pain and swelling at their incision site, surgery is often required for both the treatment and definitive diagnosis.[9,10]

The pathophysiology of scar endometriosis is not completely understood. One of the most accepted theories proposes that it is caused by the inoculation of endometrial tissue into operation scar. Endometrial tissue is inoculated directly into the surgical wound during the procedure. It is assumed that endometriosis develops when these cells proliferate under hormonal stimulus or when they lead to the development of metaplasia in the surrounding tissue. In addition, the endometrial tissue may reach the wound through the lymphatic or vascular pathways.[11] Here we retrospectively analyzed the clinical aspects of scar endometriosis and surgical approach in six patients from a tertiary hospital.

In the current study age of the patients varied from 23-42 years. The mean age was 29.5±6.6 years. Some other studies showed a similar type of result. Ozel et al. reported the mean age was 34.6±9.6 years.[12] In their study, Tatli et al. showed that the mean age was 32.7±8.6 years and most of the patients were in the age group 19-45 years.[13] Hasan et al. found that most of the patients are in the age group 26-38 years with a mean age of 32.6±8.6 years.[14] These age differences may be due to different places of study and different sample sizes.

In this study, common symptoms of almost all of the patients were cyclical pain and swelling at the incision site. Only one patient had experienced non-cyclical pain and itching (16%). Some other group of authors showed the same results. 20% had noncyclical[14], 33%[15], 16%[13], 26.6%.[12]

In the present study, the diameter of the endometriotic lesions ranged from 3 to 7 cm with a mean size of 4.5 cm. Ozel et al. showed the mean size of the lesion was 3.9 cm.[12] A group of authors reported a mean size of 2.4 cm with a range of 1.1 to 3.5 cm. Another group of authors showed the size of lesions ranged from 2-7 cm with a mean of 4.8 cm.[14]

In the present study, no correlation was found between the tumor size and patient age, location, and number of previous C/S.

So, in our experience, scar endometriosis is a rare condition and should be suspected when a lady in the reproductive age presents with pain and swelling at the scar site after obstetric surgery. USG is a useful diagnostic tool. Wide excision is the treatment of choice, as medical treatment may not produce lasting relief.

Conclusion

Confirmation of diagnosis by proper histopathological examination and finding the invasive foci in adjacent organs can help the surgeon with further management.

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