

# Scar Endometriosis Following Cesarean Section

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**OBJECTIVE:** The purpose of our study was to evaluate clinical features of abdominal wall endometriosis following cesarean section.

**STUDY DESIGN:** Our institution's database over a 5-year period was performed, yielding 9 surgically proven cases of abdominal wall endometriosis that were retrospectively studied. All patients had undergone sonography. The clinical data were analyzed.

**RESULTS:** All patients had a history of at least one prior cesarean section. None of them had endometriosis history. All presented with focal pain near the surgical scar, which was cyclic in seven patients. Three patients presented with a palpable mass near the scar. Sonography detected all lesions within the abdominal wall, with a mean diameter of 30 mm. All lesions were vascular, and solid, with some cystic changes.

**CONCLUSION:** Abdominal wall endometriosis frequently presents with cyclical pain during menstruation which is localised to a palpable mass in the abdominal wall especially in those who have had previous cesarean section. Complete surgical excision is curative.

**Key Words:** Abdominal wall, Cesarean delivery, Endometriosis

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## Introduction

Endometriosis is defined as functioning endometrial tissue outside the uterine cavity. It affects up to 15% of menstruating women.<sup>1</sup> It is usually located within the pelvis. However, Endometrial implants, have been reported in many unusual sites outside the pelvis including the abdominal wall. After surgical procedures, such as a cesarean section, endometrial tissue may be transplanted.<sup>1-5</sup> The cesarean scar is the most common site of extragenital endometriosis.<sup>6</sup> The diagnosis of scar endometriosis is usually based on history and physical examination. The aim of our study was to describe the clinical presentation of our case serious of abdominal wall endometriosis with information in the literature on the subject.

## Material Method

This was a retrospective case serious performed at Zekai Tahir Burak Woman's Health Education and Research Hospital. Data was obtained from the medical records of pa-

tients diagnosed with surgical scar endometrioma prior to their surgery. Operations were performed between January 2005 and December 2010. The postsurgical histopathological analysis showed presence of endometrial glands and stromal cells in the connective tissue in all patients (figure 1).

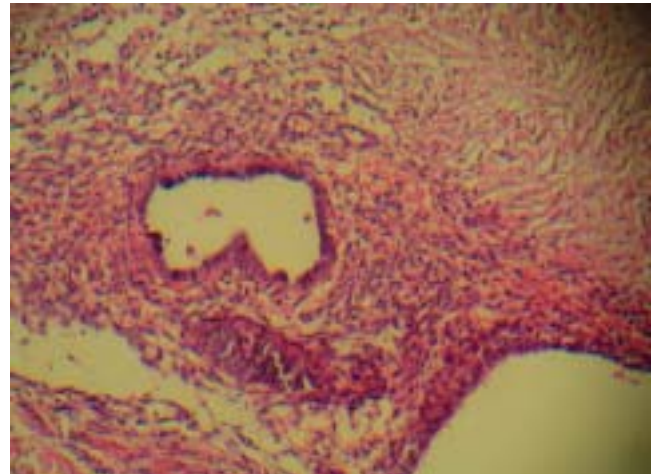


Figure 1: Postsurgical histopathological analysis scar endometriosis

Patients age, obstetric antecedents, symptoms, tumor location and size, duration of complaint, diagnosis, the time interval between the obstetric procedure and the onset of symptoms were recorded. Surgical removal of the tumor was performed in all patients. Definitive diagnosis was confirmed by the pathological examination.

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## Results

The patient characteristics and symptomatology are summarised in Table I. The mean age of the patients at presentation was 32.55 years (range 25-42 years). The mean length of time between the obstetric procedure and the onset of symptoms were 18 months (range 6-36 months). The mean length of time between onset of symptoms and surgical removal of the tumor was 50.80 months. Cyclical pain during menstruation localised to a palpable mass in the abdominal wall was the main clinical feature in these patients. All presented with focal pain near the surgical scar which was cyclic in seven patients. Three patients presented with a palpable mass near the scar. One complained of cyclical bleeding from the cutaneous scar. All patients had a history of at least one prior cesarean section. None of them had endometriosis history. None of the patients were offered medical treatment prior to surgery. All the patients were clinically diagnosed as having scar endometriosis. None of the patients required an insertion of a polypropylene mesh for repair of the rectus sheath following excision. Serum CA-125 level was slightly elevated in 5 of the patients. Sonography detected all lesions within the abdominal wall. The histological appearance of all the specimens was consistent with endometriosis with both glandular and stromal elements. None of the patients developed recurrent disease in a one year follow up after surgery.

## Discussion

This study reviewed the nine patients diagnosed with cutaneous endometriosis at Zekai Tahir Burak Woman's Health Education and Research Hospital during a five-year period (2005-2010). Various theories including retrograde menstruation, metaplasia, and venous or lymphatic dissemination have been proposed concerning the etiopathogenesis of endometriosis.<sup>7,8</sup> The most generally accepted theory as to the cause of scar endometriosis, is the iatrogenic transplantation of endometrial implants to the wound edge during an abdominal or pelvic surgery.<sup>6,9-11</sup> None of our patients with scar endometriosis had any signs or prior history of peritoneal endometriosis, suggesting that this condition might be probably caused by endometrial cell dissemination into the wound at the time of surgery. The true incidence of cesarean section scar endometriosis is difficult to determine, but is estimated to be 0.003-0.15%.<sup>6</sup> The mean period between the procedure and symptoms starting was reported around 5 years.<sup>12</sup> In our series the mean length of time between the obstetric procedure and the onset of symptoms was 18 months (range 6-36 months) and the mean length of time between onset of symptoms and surgical removal of the mass was 50.80 months (range 24-120 months). The most commonly presenting symptom of this condition is cyclic pain with a palpable mass. In our study all patients had focal pain near the surgical scar which was cyclic in seven patients. Three patients presented with a palpable

mass near the scar. One complained of cyclical bleeding from the cutaneous scar. Cyclicity is not always present and is not essential for the diagnosis. All our cases were diagnosed based on clinical features and ultrasonography was also used to aid the diagnosis. On sonography lesions may appear as cystic, multicystic, mixed or solid masses (figure 2).

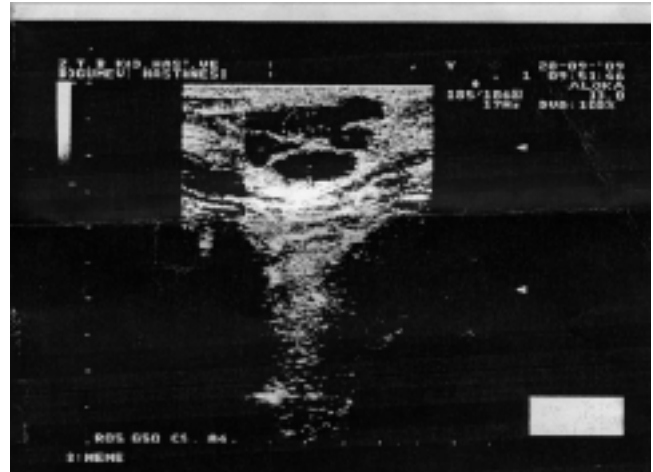


Figure 2: Sonographic appearance of scar endometriosis

The antigen CA-125 is a high molecular weight antigenic determinant expressed on the surface of the coelomic epithelium, plasma CA-125 concentration is known to be elevated in a variety of benign conditions, such as superficial and deep endometriosis, adenomyosis, pelvic inflammatory disease, and uterine fibroids or physiological conditions such as menstruation and early pregnancy.<sup>13</sup> In our series the CA-125 level was slightly elevated in 5 (55.5%) of our patients (table 1).

Management includes both surgery and hormone suppression with GnRH analogs.<sup>14</sup> None of our patients had preoperative medical treatment. Surgical excision is the mainstay of therapy. Complete removal of the mass is curative. Macroscopically, the mass is usually nondiscrete, rubbery and multiloculated (figure 3).

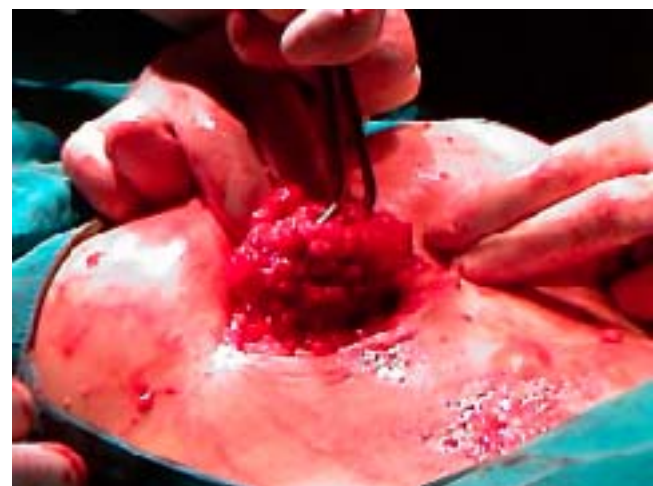


Figure 3. Macroscopic appearance of scar endometriosis

Differential diagnosis includes hernias, lipomas, hematomas, abscesses, suture granulomas, sebaceous cysts, sarcoma, lymphomas and primary or metastatic cancers.

Histology of the excised tissue confirmed the diagnosis in all our patients. The endometrial glands were within in a background of fibroadipose tissue with a standard haematoxylin and eosin stain (figure 1).

In conclusion, scar endometriosis following cesarean section is a rare entity. It should be suspected in a patient with pain and palpable mass at an incisional site most commonly following pelvic surgery. The incidence of this entity may increase with increasing numbers of cesarean section. It is important to prevent implantation of endometriotic cells during uterine surgery.

Table 1: Clinical characteristics and symptomatology of women with scar endometriosis

Patient no	Age (years)	Parity	Site	Symptoms	Previous surgery	Duration before presentation (months)	Clinical finding	Depth of penetration	CA-125 (IU/ml)
1	42	2+0	Right inguinal	Scar pain during menses	Cesarean section (5 and 11 years ago)	24	3cmx4cm Nodule in previous scar	Rectus sheath	40
2	31	2+0	Phennenstiel scar (right side)	Painful nodule and cyclical bleeding	Cesarean section (8 and 11 years ago)	6	3cmx5cm Nodule in previous scar	subcutaneous	47
3	25	1+0	Phennenstiel scar (left side)	Dysmenorrhoea, cyclically painful nodule	Cesarean section (5 years ago)	6	3cmx3cm Nodule in previous scar	Rectus sheath	15
4	32	4+1	Phennenstiel scar (left side)	Scar pain	Cesarean section (3 years ago)	12	3cmx4cm Nodule in previous scar	Rectus muscle	15
5	29	2+1	Phennenstiel scar (left side)	Dysmenorrhoea, cyclically painful nodule	Cesarean section (2 and 8 years ago)	24	2cmx2cm Nodule in previous scar	Subcutaneous	7
6	32	1+2	Phennenstiel scar (suprapubic)	Cyclical Pelvic pain	Cesarean section (10 years ago)	12	4cmx2cm Nodule in previous scar	Rectus sheath	22
7	28	1+0	Phennenstiel scar (right side)	cyclically painful nodule	Cesarean section (4 years ago)	36	5cmx2cm Nodule in previous scar	Rectus sheath	62
8	36	2+0	Phennenstiel scar (left side)	Dysmenorrhoea, cyclically scar pain	Cesarean section (4 and 13 years ago)	36	3cmx2cm Nodule in previous scar	Rectus muscle	47
9	38	1+0	Phennenstiel scar (left side)	Pelvic pain	Cesarean section (3 years ago)	6	2cmx2cm Nodule in previous scar	subcutaneous	73

## Sezaryen Sonrası Skar Endometriosis

**AMAÇ:** Sezaryen operasyonu sonrası oluşan skar endometriosisin klinik özelliklerini değerlendirmeyi amaçladık.

**GEREÇ VE YÖNTEM:** Hastanemizin son 5 yıllık kayıtlarını retrospektif olarak incelediğimizde 9 adet cerrahi olarak çıkarılmış skar endometriosisi tespit ettik. Tüm hastalara ultrasonografi yapılmıştı. Hastaların klinik verileri incelendi.

**BULGULAR:** Hiçbir hastada önceden tespit edilmiş endometriosis öyküsü yoktu. Tüm hastalarda skar etrafında ağrı şikayeti vardı. Hastaların 7 tanesinde ağrı periyodik tarzdaydı. Skar etrafında palpable kitle 3 hastada vardı. Ultrasonografik olarak tespit edilen kitlelerin, ortalama çapları 30 mm idi.

**SONUÇ:** Karın duvarı endometriosisi genellikle siklik ağrı ve karın duvarında palpe edilen kitle olarak bulgu verir. Tedavide komplet cerrahi eksizyon uygulanır.

**Anahtar Kelimeler:** Karın duvarı, Sezaryen operasyonu, Endometriosis

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