



SCAR ENDOMETRIOSIS, AN ENIGMATIC SEQUEL OF OBSTETRIC PROCEDURES

Obstetrics & Gynaecology

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ABSTRACT

Introduction: Incidence of scar endometriosis varies. Diagnosis often gets delayed owing to varied clinical presentation and surgery often remains the main modality offering benefit of being both diagnostic and therapeutic. The purpose of this study was to analyze uncommon sites of occurrence of scar endometriosis and its clinical presentation. **Methods:** We prospectively analyzed confirmed cases of scar endometriosis in terms of clinical course and management. **Results:** The mean age of presentation of scar endometriosis was 29 ± 3.98 years (range 24 - 38 years). Only one case was seen of episiotomy scar endometriosis, rest all had caesarean scar endometriosis. Sixty percent (6) of patients presented with cyclical pain, 30% (3) of them had cyclical pain and swelling and one patient presented with swelling and cyclical bleeding from scar site. The mean size of scar endometrioma studied was 2.69 cm with the largest measuring 4x 3 cm. All patients underwent surgical excision with negative margins. **Conclusion:** Diagnosis of scar endometriosis should always be considered in cases of painful swelling in obstetric scar sites. High index of suspicion is needed as delayed diagnosis increases patient's agony.

KEYWORDS

Scar endometriosis, episiotomy, caesarean scar

Introduction:

Endometriosis is characterized by presence of functional endometrial glands outside the uterine cavity seen in 5-15% of women in reproductive age group [1]. Pelvic endometriosis is most commonly seen in ovary/ovaries, cul-de-sac, fallopian tubes, uterosacral ligaments. Rarely endometriotic implants are incidentally diagnosed outside the pelvis (extra pelvic endometriosis). Endometriosis usually presents as pain abdomen, dysmenorrhoea, dyspareunia and infertility. Laparoscopy is the gold standard in diagnosis as it identifies lesion and has the advantage of treating this condition in the same sitting.

One of the rare sites of extra pelvic endometriosis is in scars following previous obstetrical and gynecological surgeries, known as scar endometriosis or cutaneous endometriosis. The incidence of scar endometriosis is 0.03-1%[2]. The exact pathophysiology of scar endometriosis remains an enigma however, most accepted theory is iatrogenic implantation of cells directly over the scar site which proliferate cyclically under hormonal influence. Additionally, endometrial cells may reach the scar site by lymphatic and hematogenous route.

The clinical presentation of scar endometriosis is variable. The classical triad, however non specific, is characterised by cyclical or continuous pain at scar site, increase in size of swelling and cyclical bleeding from the swelling. The varied clinical presentation may be responsible for delay in diagnosis and the diagnosis is confirmed on histopathology. Symptoms are intractable and hence require surgical excision which offers the benefit of being both diagnostic and therapeutic.

The present study was conducted to analyze 10 patients presenting with rare diagnosis of scar endometriosis. The aim of our study was to analyze the uncommon sites of occurrence of scar endometriosis and its clinical presentation to help in early diagnosis and management of this condition.

Material and Methods:

A prospective study was conducted in the hilly terrain at All India Institute of Medical Science, Rishikesh, Uttarakhand over a span of 3 years from February 2016 to October 2018. Patients presenting to the gynecology out patient department with symptoms of scar endometriosis. They underwent ultrasonography and diagnosis was confirmed by fine needle aspiration cytology (FNAC). Only patients with confirmed diagnosis of scar endometriosis were included in the study. Patients not willing to participate were excluded from our study.

Demographic profile, details of previous surgery, duration of symptoms were studied. After initial evaluation and preanesthetic check-up they were posted for excision of scar endometriosis. Out of the ten patients nine had history of previous caesarean and one presented with history of vaginal delivery with right mediolateral episiotomy (Table 1). Depending on the depth of the lesion en block removal was required in three cases where rectus sheath was involved followed by mesh repair. The diagnosis was confirmed by histopathological examination.

Results:

Details of patients with scar endometriosis has been illustrated in table 1. The mean age of presentation of scar endometriosis was 29 ± 3.98 years (range 24 - 38 years). Except for one patient who had scar endometriosis following vaginal delivery at episiotomy site (Fig 1), rest had previous LSCS. In women who had previous LSCS there was one (11.11%) patient with previous 3 LSCS, three (33.33%) with previous 2 LSCS and five (55.5%) with previous 1 LSCS.

Sixty percent (6) of patients presented with cyclical pain, 30% (3) of them had cyclical pain and swelling and one patient presented with swelling and cyclical bleeding from scar site. The mean duration of symptoms from the index surgery was 31.8 ± 17.1 months, ranging from 18-72 months. The mean size of scar endometrioma studied was 2.69 cm with the largest measuring 4x 3 cm. All patients underwent surgical excision with negative margins. In three patients scar

endometriosis was involving all the layers of anterior abdominal wall which required excision of the scar with mesh repair.(Fig 2). The post-operative period was uneventful in all cases and so far no recurrence has been noted on follow-up.

DISCUSSION:

Scar site endometriosis or cutaneous endometriosis is a rare site of extra pelvic endometriosis. It usually has an infiltrative tendency causing fibrotic adhesions and may be misdiagnosed as a neoplastic lesion. The average time for development of cutaneous endometriosis from index surgery is 3.6 years [3] which in our study was 2.6 years.

The highest incidence is seen in women of reproductive age group between 25 to 35 years[3]. Age of women recruited in this study ranged from 24-38 years. The incidence is 0.03 to 1% and following caesarean delivery is 0.03 to 0.47% [4].

Scar endometriosis is more commonly associated with obstetric procedures than gynaecological ones probably due to more endometrial handling in them. Separation of active cells may be facilitated by amniotic fluid and higher blood loss in obstetric procedures providing a relatively rich nutritional environment for growth of endometrial cells. [5] Amongst these, scar endometriosis is twice more frequently associated with caesarean delivery as compared to vaginal delivery with episiotomy.[6] The other procedures where occurrence of scar endometriosis has been reported are laparoscopic port site, hysterectomy, hysterotomy, amniocentesis needle tract, bartholin cyst excision[7]. De Oliveira et al studied the risk factors for scar endometriosis and concluded that it is more often associated with early hysterotomy (before 22 weeks), heavy menstrual bleeding[8]. Caesarean section performed before onset of spontaneous labor may increase occurrence of scar endometriosis. [9] High parity is a protective factor for endometriosis.

The most accepted theory for occurrence is iatrogenic implantation of endometrial cells on the surgical scar site. Caution during surgical procedures may reduce the incidence of scar endometriosis. Precise control of bleeding, washing of the abdominal cavity before closure and minimising subcutaneous dead space might be effective in reducing its incidence [10]. Few other techniques like replacing needle and instruments when closing the abdominal layers and removing the corpus luteum have also been proposed to reduce the incidence but with no proven efficacy. [7].

Clinically scar endometriosis is difficult to diagnose but the classic symptoms are cyclical pain, swelling and bleeding. Local examination often reveals a nodular, irregular, painful swelling at the scar site. The main differential diagnosis are stitch site granuloma, incisional hernia and hematomas.

Ultrasonography (USG), computed tomography (CT), magnetic resonance imaging (MRI) may help in diagnosis of scar endometriosis. CT and MRI have sensitivity of 90-92% and specificity of 91-98% [11]. It appears as a cystic, solid, or heterogenous mass on USG. Bleeding foci can be diagnosed on both CT and MRI. [2]. Fine needle aspiration biopsy may be done to support the diagnosis, however incisional biopsy is not recommended since it may spread the disease. [4]. In our study patients underwent USG and FNAC to confirm the diagnosis. CT or MRI was not done. Diagnosis was confirmed by histopathology showing endometrial glands with stroma and haemosiderin laden macrophages(Fig 3).

The treatment of choice is wide local excision with negative margins, at least 1 cm away from the solid tissue [2]. En bloc resection is required in cases where musculature of abdominal wall has also been incorporated. In the current study three patients required en bloc removal with mesh repair to prevent incisional hernia later in life. It is generally benign, however clear cell adenocarcinoma has been reported.[12] Recurrence rate is 4.3% even with negative surgical margins.[3]. However there was no recurrence in our study on follow up till date.

Medical management with gonadotropin releasing hormone analogues and progesterone has a high failure rate and may be reserved for women with concomitant pelvic endometriosis.[13]

CONCLUSION:

Scar endometriosis being a rare condition is often misdiagnosed for

stitch granuloma, incisional hernia and hematomas. Diagnosis is confirmed by histopathology. Gross appearance of reddish brown nodule may be suspicious in diagnosing this condition. A delay in diagnosis may aggravate a patient's agony. As clinicians we must have a high index of suspicion in patients presenting with painful swelling in obstetrics and gynaecological scar sites. Once diagnosed, definitive management comprising of surgical excision is recommended. There are yet no proven modifications in surgical steps to reduce the incidence of scar endometriosis.

Table 1: Detail of patients diagnosed with scar endometriosis (n=10)

Num ber	Age(y ears)	Previous surgery	Symptoms	Duration of symptoms (months)	Size	Procedure
1	32	prev. 3 LSCS with tubal ligation	Swelling and cyclical bleeding from scar site	18	3.4 x 2.8 cm	Excision with mesh repair
2	38	vaginal delivery with episiotomy	cyclical pain	72	2 x 2 cm	Excision
3	24	prev 2 LSCS	cyclical pain	24	3 x 3.5 cm	Excision with mesh repair
4	26	prev 1LSCS	cyclical pain	18	2 x 1.8 cm	Excision
5	25	prev 1 LSCS	cyclical pain and swelling	24	2 x 2 cm	Excision
6	27	prev 1 LSCS	cyclical pain and swelling	48	2 x 2 cm	Excision
7	27	prev 2 LSCS with tubal ligation	cyclical Pain	24	4 x 3 cm	Excision with mesh repair
8	30	prev 1 LSCS	cyclical Pain and swelling	18	2 x 2 cm	Excision
9	30	prev 2 LSCS	cyclical pain	24	3 x 3 cm	Excision
10	32	prev 1 LSCS	cyclical pain	48	3 x 2 cm	Excision

LSCS: lower segment caesarean section

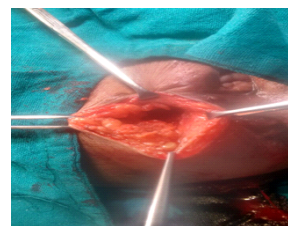


Fig 1: Episiotomy site endometriosis

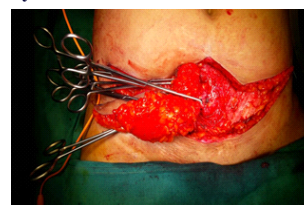


Figure 2: Caesarean scar endometriosis

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