Cesarean Section Scar Endometriosis : A Case Report and Review of the Literature

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Abstract

Cesarean section scar endometriosis is a rare event. The reported incidence is 0.03-1.7 per cent. Herein, the authors report a case of a 35-year-old woman, G_1P_1, who presented with cyclic pain at the left lateral edge of the pfannenstiel scar. The skin of this edge had also become dark brown. She had undergone a cesarean section for cephalopelvic disproportion four years previously. Physical examination revealed only mild tenderness and a dark brown nodule at the left lateral edge of the scar. Pre-operative diagnosis was scar endometriosis, surgical excision was performed and the tissue pathology confirmed the characteristic features of endometriosis. The post-operative course was uneventful, and no recurrence was found during the two-year follow-up period. The literature regarding cesarean section scar endometriosis was reviewed.

Key word : Cesarean Section, Scar, Endometriosis, Surgery

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J Med Assoc Thai 2002; 85: 733-738

Endometriosis is defined as the presence of functioning endometrial glands and stroma outside their usual location lining the uterine cavity(1,2). Extrapelvic endometriosis is not rare and occurs in many locations ranging from the lungs to the extremities; but abdominal scar endometriosis after abdominal surgery is rare(2-4), the incidence ranging from 0.03-1.7 per cent(3-5). Herein, the authors report a case of abdominal scar endometriosis occurring after cesarean section, which was cured by surgical excision.

CASE REPORT

A 35-year-old gravida 1, para 1 woman had undergone a cesarean section at 40 weeks gestation for cephalopelvic disproportion when she was 31

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years old. She complained of cyclic pain at the left lateral edge of the pfannenstiel scar for three months. She also noticed that the skin at this edge had become dark brown. She did not have pelvic pain or dysmenorrhea. She was treated with non-steroidal antiinflammatory drugs by a previous doctor but the symptom persisted. Her past medical history and family history were unremarkable. Physical examination revealed mild tenderness at the left lateral edge of the pfannenstiel scar and a 1 cm diameter dark brown nodule at the left edge, and a normal pelvic examination. At operation, a 1 x 1 cm well circumscribed subcutaneous rubbery nodule was excised with a wide margin from the scar. The nodule was not attached to the rectus sheath. Microscopic examination of the excised mass showed fibroadipose tissue, infiltrated with endometriosis, characterized by endometrioid glands surrounded by endometrial-type stroma which exhibits focally with histiocytes containing hemofuscin, hemosiderin or both (Fig. 1). The post-operative course was uneventful. She was discharged the day of surgery and has remained free of symptoms two years after surgery.

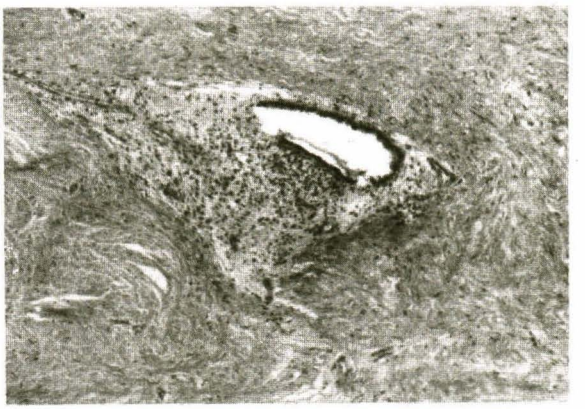

Fig. 1. Scar endometriosis: endometrial glands and stromal cells embedded in cutaneous connective tissue (H&E x 40).

DISCUSSION

Endometriosis is one of the most common gynecologic disorders. It often affects the pelvis but may involve other areas, and may develop inside surgical scars[2,3,5]. Scar endometriosis can develop after pelvic surgery such as cesarean section, tubal ligation, hysterectomy, salpingectomy and hysterotomy[2]. There have also been reports on abdominal wall endometriosis occurring at the side of needle passage for amniocentesis and hypertonic saline injection[6,7]. In the presented case, scar endometriosis developed after cesarean section. The incidence of cesarean section scar endometriosis has ranged from 0.03 to 1.7 per cent in several previous reports[3-5,8].

The pathogenesis of scar endometriosis may be explained by a combination of theories. The most popular is the transport theory that inadvertent iatrogenic dissemination occurs during abdominal or pelvic surgery[1-4,9-11]. Another theory contends that primitive pleuropotential mesenchymal cells may undergo specialized differentiation metaplasia to form endometrial implants[9,10]. Development of scar endometriosis following cesarean section is rarer than following hysterotomy because endometrial tissue is the most difficult to transplant at term[2], and it is likely that during hysterotomy, particularly with a classical incision, the decidua of early pregnancy spills readily and implants itself directly into the abdominal wound[3]. The frequency of scar endometriosis following abdominal hysterectomy is lower than cesarean section[2,4,8]. This may be explained by the unexposed endometrial cavity during abdominal hysterectomy. The interval between prior surgery and the onset of symptoms of the presented case was three years and nine months, which is within the range of previous reports (3 months - 20 years)[2,3,5,8,9-21].

Diagnosis of scar endometriosis should include detailed history taking, thorough examination and histological examination[2-4]. The study case presented with a cyclically painful mass, similar to previous reports describing symptoms of pain, bleeding or increase in the size of laparotomy scars periodically at the time of menstruation[2-5,8,10,16-23]. If scar endometriosis is associated with pelvic endometriosis, other symptoms such as dysmenorrhea, dyspareunia or infertility may develop[2], but these symptoms were not found in the presented case. Ultrasonography was not performed before and after surgery in the presented case because there was no symptom related to pelvic endometriosis and normal pelvic examination. The association of pelvic endometriosis is infrequent, occurring in 22-24 per cent in the absence of symptoms[2,5].

Table 1. Characteristics of cesarean section scar endometriosis : 19 literatures, 94 cases.

Authors	Number of patients	Age (years)	Interval since operation (years)	Symptoms (n)	Size of lesion (cm x cm)	Treatment	Number of cases with recurrence	Years of follow-up at recurrence
Brenner C & Wohlgemuth S[10]	3	29	3-4	Painful mass (2) Painless mass (1)	3 x 4 - 8 x 10	Surgery	-	-
Koger KE, et al[4]	19	17-47	1-13	Painful mass (15) Painless mass (4)	1.5 x 1.5 - 5.5 x 5.5	Surgery	0	-
Coley BD & Casola G[9]	1	30	6	Painful mass (1)	4 x 5	Surgery	-	-
Daye SS, et al[18]	7	23-37	1-7	Painful mass (6) Painless mass (1)	1 x 2 - 5 x 2	Surgery	0	-
Zuber TJ[22]	1	23	3/12	Painful mass (1)	5 x 5	Surgery	-	-
Tanos V & Anteby SO[11]	2	27-39	1.5-4	Painful mass (2)	3 x 3 - 3 x 4	Surgery	-	-
Ashfaq R, et al[15]	2	27-30	4	Painful mass (2)	2 x 3 - 4.6 x 3.7	Surgery (1) MPA (1)	-	-
Firilas A, et al[16]	3	20-27	4-8	Painful mass (1) Painless mass (2)	2.5 x 2 - 3.5 x 2.5	Surgery	-	-
Purvis RS & Tyring SK[17]	1	22	3	Painful mass (1)	2 x 2	Hormonal + surgery	0	-
Singh KK, et al (8)	6	-	2-6	Painful nodule (6)	-	Surgery	0	-
Rivlin ME, et al[12]	1	22	3/12	Painful mass (1)	3.5 x 3.5	Pre-operative medical + surgery	0	-
Gupta RK & Naren S[13]	1	30	5	Painful nodule (1)	2.5 x 1	-	-	-
Xiang Y, et al[19]	24	-	1	Painful mass (24)	-	Surgery	-	-
Wolf Y, et al[14]	4	29-40	2-9	Painful mass (4)	3 x 4 - 3 x 5	Surgery	0	-
Rizk DE & Acladious NN[23]	1	42	13	Painful mass (1)	5 x 5	Surgery	0	-
Liang CC, et al[2]	9	24-40	2-8	Painful mass (9)	2 x 2 - 5 x 5	Surgery (7) Surgery + post-operative danazol (2)	0	-
Patterson GK & Winburn GB[20]	6	20-36	0.5-10	Painful mass (6)	-	Surgery	1	1 10/12
Laohapensang K[21]	1	35	9	Painful nodule (1)	2 x 3	Surgery	0	-
Hussien M & Peyton JW[26]	1	38	7	Painful mass (1)	2 x 2	Surgery	-	-
Present case	1	35	3 9/12	Painful mass (1)	1 x 1	Surgery	0	-
Total	94	17-47	3/12-13	Painful mass related to menstruation (78)	1 x 1 - 8 x 10	Finally surgery (92)	1	1 10/12

MPA: Medroxyprogesterone acetate

The differential diagnosis of abdominal wall mass should include metastatic lesion, desmoid tumor, sarcoma, lymphoma, hematoma, abscess, granuloma, hernia, sebaceous cyst and neuroma[2-4,7,13,15,16].

Other diagnostic tools may include ultrasonography, computed tomography, magnetic resonance imaging and fine needle aspiration biopsy[3, 9-3,15,20,24-26]. But a definite diagnosis requires tissue pathology[2,15,17]. The presented case was diagnosed with history taking, examination and confirmed with tissue pathology, and other diagnostic tools were not done because they would be of little benefit. However, they should be used in an extensive lesion or suspected pelvic endometriosis.

The management of scar endometriosis includes both medical and surgical treatment[2,3,17]. Medical therapy such as progestins, oral contraceptives, androgenic agents and gonadotropin agonists provide only temporary relief of symptoms, followed by recurrence after the cessation of use[3,5,12,17, 27]. Those agents may also cause unfavorable side effects[3,17,27]. Thus, surgical excision remains the management of choice[2-5,8,10-12,14,16-20,22,23, 26]. The advantages of surgery include avoiding recurrence and obtaining tissue pathology to exclude malignancy. This is important, as there have been reports of clear cell and endometrioid carcinoma arising in cesarean section scar endometriosis[28-32]. The presented case was managed with surgical excision and has remained asymptomatic since then. However, there are reports of recurrence following surgical excision[33,34].

Prophylactic procedures have been recommended to prevent decidual contamination of the wound, including careful surgical techniques to prevent spillage over the wound edges and lifting the uterus outside the abdomen before incision[2-5]. It has been proposed that routine irrigation should be avoid, the endometrial cavity should not be cleaned of debris with a sponge at the time of cesarean section[2,3], and the needle used for suturing the uterus should not be reused during closure of the abdomen[2,4,5].

The English literature concerning cesarean section scar endometriosis available from Medline between the years 1990 and 2000 was reviewed. There were 19 publications and 94 cases, including the presented case (Table 1). All cases occurred in women 17-47 years old and the incidence was 0.2 per cent. The interval between prior cesarean section and the onset of symptoms ranged from 3 months to 13 years. The most common symptom was a painful mass related to menstruation found in 78 cases (83%). Most cases were finally treated by excision of the scar endometriosis. There was only one case of recurrence at the 22 months' follow-up period from Patterson and Winburn's report[20]. However, they did not state the details of this case.

In conclusion, although scar endometriosis following cesarean section is not common, the diagnosis should be considered in a patient presenting with a cyclically painful mass or nodule in the scar related to the menstrual period. Surgical management remains the treatment of choice.

(Received for publication on February 10, 2002)

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ภาวะเยื่อบุโพรงมดลูกเจริญที่แผลผ่าตัดคลอดบุตรทางหน้าท้อง : รายงานผู้ป่วยและทบทวนวารสาร

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ภาวะเยื่อบุโพรงมดลูกเจริญที่แผลผ่าตัดคลอดบุตรทางหน้าท้องพบได้น้อย อุบัติการณ์ที่มีรายงานพบ 0.03–1.7% คณะผู้รายงานได้รายงานผู้ป่วยหญิงอายุ 35 ปี มีบุตร 1 คน มาด้วยอาการปวดบริเวณมุมแผลผ่าตัดคลอดบุตรด้านซ้ายเป็นรอบ ๆ ตรงกับรอบระดู ผิวหนังบริเวณมุมแผลนี้มีสีน้ำตาลคล้ำขึ้น ผู้ป่วยได้รับการผ่าตัดคลอดบุตรทางหน้าท้องเมื่อ 4 ปีก่อน เนื่องจากภาวะผิดสัดส่วนระหว่างทารกและช่องเชิงกราน ผลการตรวจร่างกายพบว่ามีแค่อาการปวดที่ก้อนเนื้อสีน้ำตาลบริเวณมุมแผลบริเวณหน้าท้องด้านซ้าย การวินิจฉัยก่อนผ่าตัดเป็นภาวะเยื่อบุโพรงมดลูกเจริญที่แผลผ่าตัด ผู้ป่วยได้รับการผ่าตัดเอาก้อนบริเวณมุมแผลนี้ออก ผลการตรวจทางพยาธิวิทยาเข้าได้กับภาวะเยื่อบุโพรงมดลูกเจริญผิดที่ ภาวะหลังผ่าตัดปกติดีและไม่พบว่ามีการกลับเป็นซ้ำในระยะของการตรวจติดตาม 2 ปี คณะผู้รายงานยังได้รวบรวมรายงานเกี่ยวกับภาวะเยื่อบุโพรงมดลูกเจริญที่แผลผ่าตัดคลอดบุตรทางหน้าท้องร่วมด้วย

คำสำคัญ : การผ่าตัดคลอดบุตรทางหน้าท้อง, แผลเป็น, ภาวะเยื่อบุโพรงมดลูกเจริญผิดที่, การผ่าตัด

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