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## CASE REPORT

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

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### ABSTRACT

A woman presented with cyclic painful nodule at cesarean scar with increased in size. The symptom started 4 years after cesarean section. She was treated with wide excision. Her condition was uneventful after 3 years.

**Keywords:** cesarean section scar, endometriosis, wide excision.

### Introduction

Endometriosis is an active ectopic endometrial tissue that can grow outside the uterine cavity (both the endometrial gland and stroma). Endometrial implantation can develop in both pelvic and extrapelvic cavity<sup>(1-4)</sup>. Abdominal wall endometriosis is a subtype of extra pelvic endometriosis that usually occurs after pelvic operations<sup>(5-7)</sup>.

A cesarean section (CS) scar endometriosis is a common extra pelvic endometriosis, with the incidence of 0.03-1.7 percent<sup>(8-11)</sup>. The diagnosis of post cesarean section scar endometriosis is made by presence of characteristic triad including periodic pain, tumor, and history of cesarean section. Surgical excision is the definite histology diagnosis and is a treatment of choice. The author reported a case of cesarean section scar endometriosis from the lower most southern general hospital of Thailand that was cured by surgical excision.

### A case report

A 37 year old, Thai Muslim woman presented

with a painful nodule at the midline cesarean section scar. She had had this symptom 4 months. The pain was related to her menstrual cycle. It got worse during menstruation and better at the end of cycle. She took paracetamol and Non-steroidal anti-inflammatory drugs (NSAIDS) for pain relieve but they were not effective. The painful nodule scar was progressively swelling.

### Obstetric and Gynecologic history:

She had undergone 3 cesarean section; the first section was 16, 7 and 4 years ago. The indication was cephalopelvic disproportion. Endometriosis was not found in her previous cesarean sections. She took oral contraceptive pill after deliveries. She did not have any underlying disease.

### Clinical examinations

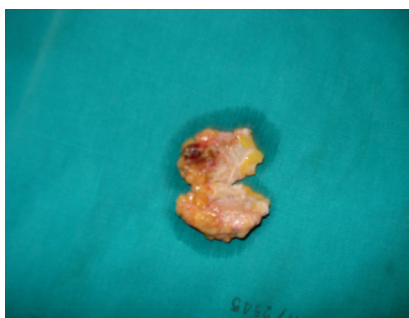
She had normal systemic examination except low midline scar with ill-defined fixed hard consistency tenderness mass, diameter of 2 cm. Pelvic and rectal examinations were within normal limit. Routine

hematologic investigations were normal.

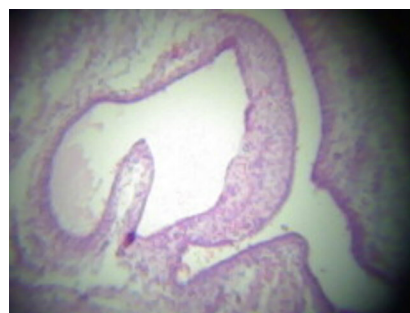
Provisional diagnosis was abdominal wall tumor, most likely scar endometriosis. Differential diagnosis were incisional hernia, foreign body granuloma, dermoid cyst, primary malignancy of skin or secondary metastasis tumors.

The patient was treated with wide excision with 1 cm. margin. The lesion was deep in the subcutaneous

layer, and adhered to abdominal muscle but not invade to pelvic cavity. The gross specimen was a piece of light-tan tissue 2.5 cm with multiple ecchymotic and brown hemorrhagic foci were seen on the cut surface (Fig. 1) Histopathological finding demonstrated consistence with scattered endometrial tissue embedded in fibrous stroma (Fig. 2). Pathological report was soft tissue anterior abdominal wall endometriosis externa.



**Fig. 1.** A piece of light-tan tissue, diameter 2.5 cm, with multiple ecchymotic and brown hemorrhagic foci.



**Fig. 2.** Scattered endometrial tissue embedded in fibrous stroma.

There was no postoperative complication. She was then took DMPA as her contraceptive method. She did not have any recurrence during her 3 years follow up.

## Discussion

Extra-pelvic endometriosis can be found in any rich blood supply area and respond to ovarian hormone. These can be seen in central nervous system, lung, pleura, stomach, gall bladder, small and large bowel, appendix, kidney, bladder, lymph node, umbilicus, hernia sac, perineum, extremities, vagina, skin, diaphragm, spine, and abdominal wall<sup>(1-4)</sup>. Abdominal

wall endometriosis might be seen after pelvic surgery, cesarean section and other pelvic operations such as tubal ligation, hysterotomy, hysterectomy, amniocentesis, hernioraphy, laparoscopic procedure, ventriculo-peritoneal shunt, hypertonic saline injection, appendectomy<sup>(5-7)</sup>.

de Oliveria MA et al<sup>(8)</sup> reported that the main risk factors for scar endometriosis was early hysterotomy in pregnancy before 22 week of gestation. Increased menstrual flow and alcohol consumption the others risk factors were. High parity was reported as a protective factor.

A cesarean section scar endometriosis is an

unusual phenomenon with incidence of 0.03-1.7 percent<sup>(9-12)</sup>. The number of cases increases because of the rising of cesarean sections<sup>(13)</sup> the possible explanation was the endometrial tissues directly embed into the wound. The tissues are either proliferated under the same hormonal influences as endometrium in utero or induces metaplasia of the surrounding fascial tissue to form an endometriosis. Alternatively, endometrial cells may reach a cesarean scar via lymphatic or hematogenous routes and subsequently grow into an endometriosis by one of the mechanisms described above<sup>(14-16)</sup>.

In extra pelvic endometriosis, the presenting symptom may vary, depending on the site of endometriosis. The most common symptom of cesarean section scar endometriosis is pain at mass or surrounding tissue. The pain is cyclic and correlated with menstruation cycle<sup>(17)</sup> similar to this report. Our patient used oral contraceptive pill and had not had pelvic pain until the last operation similar to previous report<sup>(18)</sup>. Contraceptive pills and other hormones may keep patients with CS scar endometriosis symptom free but not decreased in size<sup>(18,19)</sup>. The interval from original surgery to onset of symptoms has been recorded from 6 months to 20 years<sup>(10,20)</sup>. In our case, interval was 4 years. Both gynecologic and rectum examination are recommended because a concomitant pelvic endometriosis may be encountered in 24 -25.9 % of patients<sup>(12,21)</sup>. There was no history and abnormal examination of endometriosis in our case.

Investigations were ultrasonography with or without color Doppler, computed tomography, magnetic resonance imaging, fine needle aspiration biopsy, radionuclide imaging<sup>(22-24)</sup>. Definite diagnosis requires tissue pathology. Esquivel et al<sup>(25)</sup> described a characteristic triad of periodic pain, tumor, and history of cesarean section for diagnosis of abdominal wall endometriosis. The diagnosis of this case included detailed history taking and meticulous examination. The management of scar endometriosis includes both medical and surgical treatment. However, surgical treatment is the management of choice in order to avoid recurrence and to obtain tissue for pathology<sup>(5-11,13-15,17-20,21,25)</sup>. Meticulous pelvic surgical

techniques to reduce scar endometriosis include avoiding contamination of endometrial tissue to the wound by routine irrigation, sponge endometrial tissue at the time of cesarean section, and avoiding reused the same needle to suture the uterus to close the skin<sup>(5, 6, 9-13)</sup>.

## Conclusions

A cesarean section scar endometriosis is uncommon increase of cesarean sections may increase the incidence. The diagnosis should be considered in the patients presented with triad symptoms; (periodic pain, tumor, and history of cesarean section). Surgical excision is the diagnosis and the treatment of choice. Meticulous pelvic surgery can reduce incidence of scar endometriosis.

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## โรคเยื่อบุโพรงมดลูกอยู่ผิดที่ตรงตำแหน่งแผลผ่าตัดคลอดบุตรทางหน้าท้อง : รายงานผู้ป่วยและบททวนวารสาร

วัชรินทร์ เจริญ

ผู้ป่วยโรคเยื่อบุโพรงมดลูกอยู่ผิดที่ตรงตำแหน่งแผลผ่าตัดคลอดบุตรทางหน้าท้อง เริ่มมีอาการหลังการผ่าตัด สืบโดยมีก้อนที่แผลผ่าตัด และปวดบวมที่ก้อนเวลามีประจำเดือนทุกรอบเดือน ก้อนมีขนาดโตขึ้นได้รับการวินิจฉัยและการรักษาโดยการผ่าตัดเลาะเอาก้อนออกโดยไม่พบภาวะแทรกซ้อนและการกลับเป็นซ้ำหลังจากติดตามการรักษาเป็นเวลาสามปี