

Preoperative Administration of Planovar[®] in Two Cases of Abdominal Wall Endometriosis after Cesarean Section

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Abstract

We describe 2 cases of abdominal wall endometriosis, a condition that usually occurs in surgical scars from previous cesarean sections and presents as a mass with cyclic pain and swelling.

Wide local excision with clear margins seems to be the only effective treatment. However, the mass in our 2 cases changed in size with menstruation, and palpating the masses was sometimes difficult.

Therefore, we administered an oral contraceptive containing a combination of estrogen and progesterone (Planovar[®]) preoperatively to each patient so that the endometrial mass could be reliably palpated on the day of operation. The mass was excised cleanly in each case. (J Nippon Med Sch 2010; 77: 260–264)

Key words: endometriosis, abdominal wall, medium-dose oral contraceptive (Planovar[®]), surgical treatment

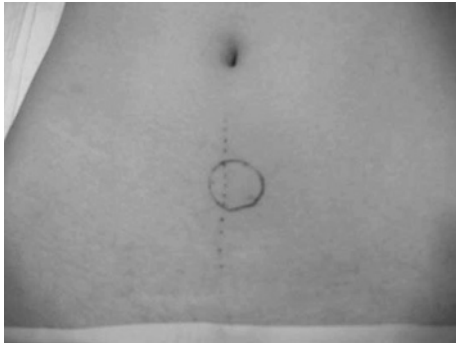
Introduction

Abdominal wall endometriosis is a rare condition affecting a small number of women with a history of cesarean section. It is believed to be caused by iatrogenic transplantation of endometrium to the abdominal wall. It manifests as a palpable subcutaneous mass that becomes swollen and tender during menstruation, sometimes changing in size, and is typically accompanied by cyclic or constant pain. The presence of endometriomas can be

established on the basis of a thorough history and physical examination. Hormonal treatments relieve symptoms but do not prevent recurrence.

Therefore, wide local excision with clear margins seems to be the only effective treatment. We report a method that proved reliable in treating 2 patients with abdominal wall endometriosis. The patients were given a medium-dose contraceptive (Planovar[®]) preoperatively to allow the mass to be reliably palpated on the day of operation. Wide local excision of the mass was performed in both patients, and no recurrence was observed.

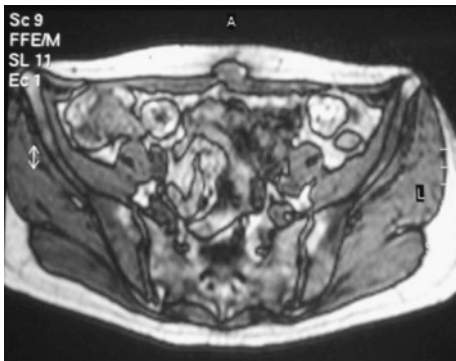
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a) Preoperative profile view
A median lower abdominal mass was observed.

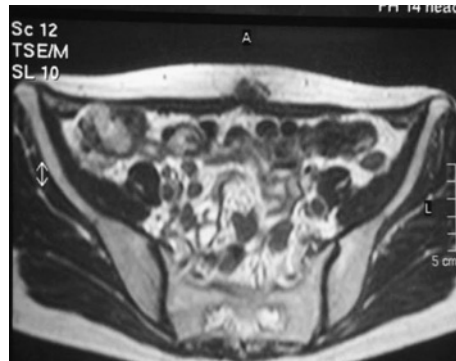


b) Ultrasonography
Ultrasonography showed a mass with inside heterogeneity 1.5 cm in diameter on the rectus abdominis muscle.



c) Magnetic resonance imaging (T1WI)

MRI showed a 1.5-cm mass in the median abdominal wall with high and low signal intensity on T1WI and T2WI.



(T2WI)



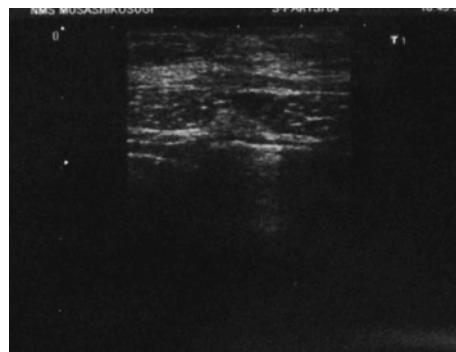
d) Intraoperative view
A wide excision with the surrounding fat tissue was performed.



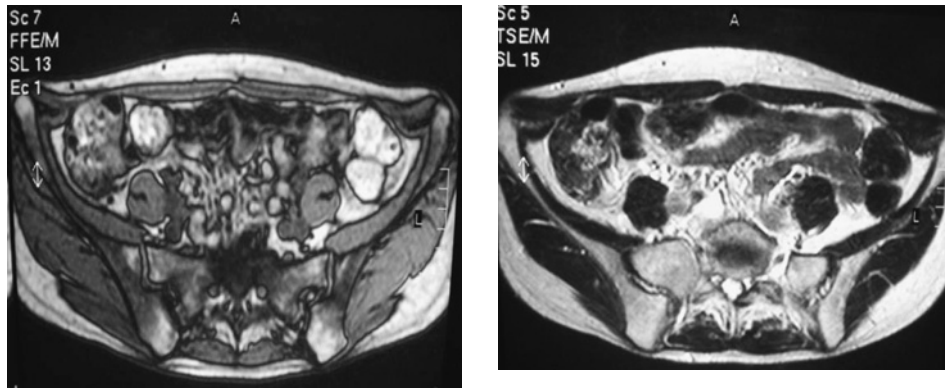
e) The mass split in half
The cystic fluid was hemorrhagic.



f) Histopathological view
The micrograph shows a glandular pattern with hypercellular stroma, confirming a diagnosis of endometriosis.



g) Postoperative ultrasonography
No recurrence of abdominal endometriosis is observed 18 month after operation.



h) Postoperative magnetic resonance imaging (T1WI) (T2WI)

No recurrence is observed on MRI.

Fig. 1 Patient 1

Case Reports

Case 1

A 37-year-old woman presented with a solid voluminous mass on the rectus abdominis muscle 2 years after undergoing a cesarean section. She complained of severe pelvic pain associated with her menstrual cycle, and we observed cyclic changes in the size of the mass along with subcutaneous bleeding and bruising (**Fig. 1a**). At certain times in the cycle the mass disappeared, and it was at its largest about 7 days after menstruation began. Ultrasonography showed a 1.5-cm-diameter mass with a heterogeneous interior on the rectus abdominis muscle 8 days after menstruation began (**Fig. 1b**). Magnetic resonance imaging revealed a mass in the median abdominal wall with both high and low signal intensity (**Fig. 1c**). Abdominal wall endometriosis was diagnosed on the basis of both the imaging tests and the clinical findings. Starting 20 days before the operation, we administered Planovar[®] for 10 days to ensure that menstruation occurred 7 days before operation and that the mass would be at its largest on the day of operation and be easy to palpate.

We performed wide excision with the anterior layer of the rectus sheath and surrounding fat tissue (**Fig. 1d**). Gross examination revealed a 3-cm-diameter cystic tumor with a thick wall and hemorrhagic cystic fluid (**Fig. 1e**). Histopathological

examination showed a glandular pattern with hypercellular stroma (**Fig. 1f**), confirming the diagnosis of abdominal wall endometriosis. Eighteen months after the operation, no recurrence was observed on palpation, ultrasonography, or magnetic resonance imaging (**Fig. 1g, h**).

Case 2

A 39-year-old woman complained of a solid voluminous mass on the rectus abdominis muscle 3 months after she had had a cesarean section. She experienced severe pelvic pain, and the mass showed minor changes in size over the menstrual cycle (**Fig. 2a**).

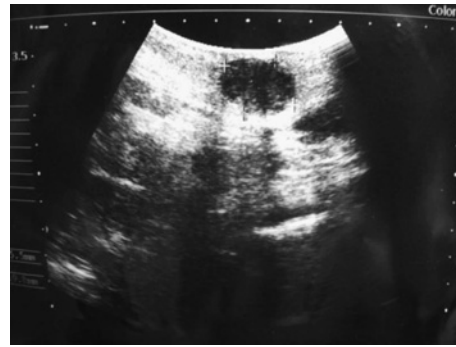
Ultrasonography revealed a mass 2.0-cm-diameter with a heterogeneous interior on the rectus abdominis muscle 11 days after menstruation started (**Fig. 2b**). Magnetic resonance imaging revealed a mass in the median abdominal wall with both high and low signal intensity, as in case 1 (**Fig. 2c**). Again, both the imaging tests and clinical findings indicated a diagnosis of abdominal wall endometriosis.

Because of the small cyclic changes in the size of the mass, we administered Planovar[®] for 18 days, starting 31 days before the operation, to ensure the mass was of optimum size for surgery.

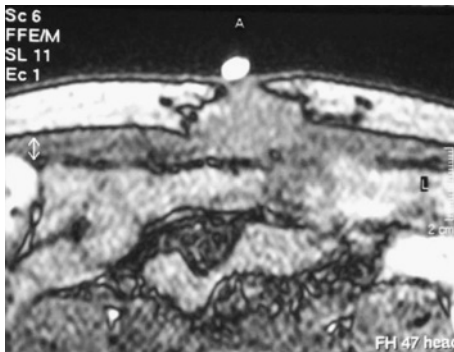
We performed wide excision with the anterior layer of the rectus sheath, as in case 1 (**Fig. 2d**). Histopathological examination of the mass confirmed abdominal wall endometriosis (**Fig. 2e**). After the operation, pseudomenopausal therapy was



a) Preoperative profile view
A median lower abdominal mass with cutaneous bleeding and coloration was observed.

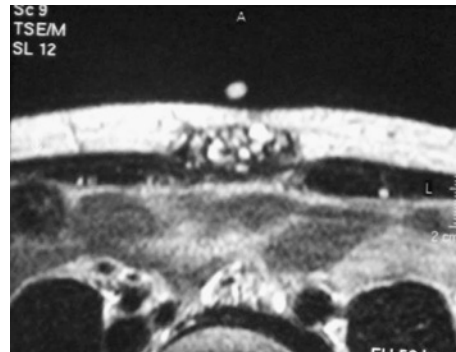


b) Ultrasonography
Ultrasonography showed a mass with inside heterogeneity 2.0 cm in diameter on the rectus abdominis muscle.



c) Magnetic resonance imaging (T1WI)

MRI showed a 2.0-cm mass in the median abdominal wall with both high and low signal intensity on the T1WI and T2WI.



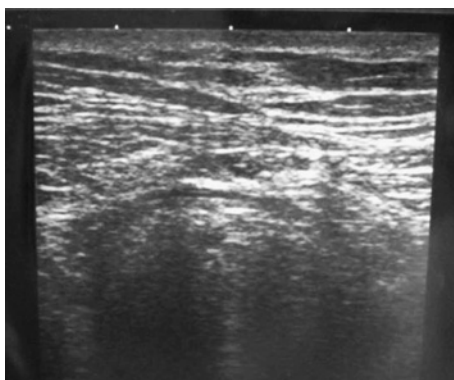
(T2WI)



d) Intraoperative view
A wide excision with surrounding fat tissue was performed.



e) Histopathological view
The micrograph shows a glandular pattern with hypercellular stroma, confirming a diagnosis of endometriosis.



f) Postoperative ultrasonography

No recurrence of abdominal endometriosis is observed 18 months after surgery

Fig. 2 Patient 2

performed 6 times to treat an ovarian chocolate cyst. No recurrence of abdominal endometriosis was observed on palpation or ultrasonography 18 months after the operation (**Fig. 2f**).

Discussion

Endometriosis is a condition in which uterine mucosal tissue is located outside of the uterine cavity. Symptoms include dysmenorrhea, infertility, and menstrual irregularities. Endometriosis can be divided into internal endometriosis and external endometriosis.

Extrapelvic endometriosis has been reported in almost all cavities and organs, including the lung, gallbladder, small and large intestines, kidney, central nervous system, extremities, perineum, and abdominal wall. Abdominal wall endometriosis has been reported to account for 1.9% to 2.6% of all cases of endometriosis^{1,2}.

Abdominal wall endometriosis usually occurs in association with surgical scars, and the condition affects 0.03% to 0.4% of women who have undergone cesarean section^{2,3}.

Abdominal wall endometriosis often presents as a mass with cyclic pain and swelling, and the time between the previous operation and the onset of symptoms ranges from 6 month to 10 years⁴. Wide local excision with clear margins seems to be the only effective treatment: hormonal treatments relieve symptoms but do not prevent recurrence.

A problem with excision is that the endometrial mass often changes in size during the menstrual cycle, with the result that surgery can be scheduled

on a day when the mass is small and difficult to palpate. To overcome this problem, we used Planovar[®], a medium-dose oral contraceptive, to ensure that the mass was of optimum size on the day of operation. Naturally, administration of this contraceptive needs to be scheduled to match each patient's condition, but in our patients we were reliably able to palpate the mass and excise the endometrial mass on their respective days of operation. To our knowledge, no such technique has previously been reported in the literature. We are confident that use of Planovar[®] as we describe will help prevent recurrence in patients undergoing surgery for abdominal wall endometriosis.

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References

1. Masson JC: Present conception of endometriosis and its treatment. *Trans West Surg Ass* 1945; 53: 35–50.
2. Scott RB, TeLinde RW: External endometriosis: the scourge of the private patient. *Ann Surg* 1950; 131: 697–720.
3. Muto MG, O'Neill MJ, Oliva E: Case records of the Massachusetts General Hospital. Case 18-2005. A 45-year-old woman with a painful mass in the abdomen. *N Engl J Med* 2005; 352: 2535–2542.
4. Yoshiyuki M: A case of abdominal wall endometriosis in rectus abdominis muscle after cesarean section. *J Jap Surg Ass* 2006; 67: 890–893.

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