

## Spontaneous Endometriosis of the Abdominal Wall

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**Abstract-** Abdominal wall endometriosis, the commonest type of extra-pelvic endometriosis, may rarely develop spontaneously in the absence of prior surgical scar. We aim to report 3 cases with this unique characteristic, two of them with a diagnosis of unusual development of umbilical endometriosis and one with inguinal endometriosis, from the perspective of a general surgeon. Because of the potential pitfalls in its diagnosis, endometriosis should be emphasized in the differential diagnosis of abdominal wall masses.

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**Key words:** Endometriosis, Spontaneous, umbilicus, inguinal

### Introduction

Endometriosis is characterized by the abnormal growth of endometrial tissue outside the uterine cavity. Most endometrial deposits are found in the pelvis including ovaries, peritoneum, uterosacral ligaments, pouch of Douglas, and rectovaginal septum, but it may rarely occur in extra pelvic locations.

These include most body cavities, as well as organs including lung, gallbladder, bowel, kidney, central nervous system, extremities, perineum, and abdominal wall (1-4). Extrapelvic endometriosis may occur in up to 12 percent of women with endometriosis (5). Umbilical endometriosis is rare with an estimated incidence of 0.5 to 1.0 percent of all patients with endometrial ectopia. More commonly, cutaneous endometriosis occurs in a surgical scar from abdominal or pelvic procedures, which include hysterectomy, cesarean sections, episiotomy and laparoscopy (7,8). As endometriosis is rarely seen by general surgeons and is often diagnosed on histological examination postoperatively due to a large number of potential pitfalls in its diagnosis, we report 3 cases, two of them with a diagnosis of unusual development of umbilical endometriosis and one with inguinal endometriosis, from the perspective of a general surgeon.

### Case Reports

#### Case 1

A 40-year-old woman was referred to our general surgery clinic due to a five month history of bleeding

from her umbilicus which was concurrent with her menstruation period. In her past medical history, she had the diagnosis of uterine fibroma due to the mid cycle spotting from 4 years ago. She had the history of 3 Natural vaginal deliveries. She had no history of pain or previous caesarean section or any other surgery. Ultrasonography (USG) revealed a myomatosis uterus with a right subserosal myoma. She underwent abdominal hysterectomy and left oophorectomy. The uterus had a big subserosal myoma in the left fundus and two intramural myomas in the corpus of the uterus. It was also a 1×0.5 cm mass in the umbilicus, which was totally excised. It was confirmed to be endometriosis with histopathology. She was discharged from the hospital after 1 day without any complication.

#### Case 2

A 37-year-old woman presented with a blue-violet umbilical nodule with bloody and pussy discharge. She had gynecological visit the previous year for the abnormal menstruation and spotting with pain and abdominal mass sensation. USG revealed a 9x5 cm cystic lesion in the right adnexa and a multiseptate cystic lesion in the left. It also revealed a solid lesion accompanied by a small cystic part which was extended from the right adnexa to the abdominal wall which was suspected to be a uterine fibroma. During the surgery with sub and circumumbilical incision, fibromatous uterus was detected while two big and subserosal fibromas were excised. The ovaries were polycystic which the big ones were undergone cystectomy. There were also two prominent mass (approximately 1×0.5 cm) in the umbilicus which were to-

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tally excised. The pathologic report from the ovaries and umbilical masses was respectively endometriotic cysts and cutaneous endometriosis. She had bloody and pussy discharge from the umbilicus after 5 months which accompanied with pain and discomfort. It was revealed a 2x2 painful black mass on examination with the above-mentioned characteristics. The patient again underwent a surgery and the aforesaid mass which contained granulation tissue and hair was entirely excised. It was extended up to the peritoneum. The pathology reported endometriosis. She was discharged from hospital after 5 days without any complication.

### Case 3

A 38-year-old woman was referred to the surgical clinic due to a painful inguinal mass. She had pain and discomfort in the right inguinal region for about a year. She underwent a surgery with the preoperative diagnosis of irreducible sliding hernia. There was no history of any prior surgery or caesarian section. During the surgery a mass with bloody discharge was detected on the medial side of the indirect hernia sac. The hernia sac was excised with mentioned mass and the pathology report revealed endometriosis of the hernia sac. She was discharged from hospital after 2 days without any complication.

### Discussion

Different pathophysiological theories concerning the origins of endometriosis have been proposed, including the implantation or reflux, direct extension, coelomic metaplasia (claiming that endometriosis develops from metaplasia of peritoneum), induction (suggesting that sloughed endometrium results in endometriosis), embryonic rest (claiming a specific stimulus to a Mullerian origin cell nest produces endometriosis) and lymphatic and vascular metastasis (9). But we didn't recognize a net etiology for our three cases. The diagnosis of extra genital endometriosis could be difficult due partly to a low index of suspicion by both general practitioners and specialists. Endometriosis of the skin is a well-recognized pathologic entity usually encountered clinically as a periumbilical lesion or within abdominal surgical scars after cesarean section or other gynecologic procedures (10). Umbilical endometriosis may also develop in the surgical scar after abdominal procedures or the trocar site of laparoscopic procedures, but it may rarely occur spontaneously in the physiologic scar of the umbilicus (11), while our first two cases had this kind of endometriosis. Inguinal endometriosis is also rare and

may be difficult to recognize. Often it is confused with other more common disorders of the groin, such as lymphadenopathy, hernia, granuloma, neuroma, abscess, lipoma, hematoma, soft-tissue tumor, metastatic cancer and subcutaneous cyst. The majority of cases are believed to be caused by progression of pelvic endometriosis down the round ligament into the inguinal canal. Inguinal endometriosis has been described after gynecologic surgery, and only a minority of cases has been associated with a hernial sac (12), such as our third patient. She had no history of any prior surgery or caesarian section. Although the reasons for right-sided predominance have not been identified, over 90% of inguinal endometriosis occurs on the right (13) and the disorder occurred on the right side of our case too. This case may be of interest to the general surgeon who commonly manages patients with groin masses but does not deal often with endometriosis. Hernias associated with endometriosis may not be clinically detectable, even though no proven explanation can be offered; the scarring reaction that surrounds endometrial foci may reduce tissue elasticity, thus hindering hernia detection on physical examination (14).

A blue-violet painful nodule with symptoms of bleeding or discharge synchronous with the menstrual cycle is pathognomonic for endometriosis. Only one (case 1) of our patients had these characteristics. Pain was a remarkable complaint in two (case 2 and 3) of our patients, but they didn't have a cyclic pain which could help in establishing the diagnosis. A preoperative ultrasonographic examination has helped to determine the size of the lesion and whether the mass is cystic or solid and has been useful in excluding underlying intra-abdominal pathologic factors (15,16). But the reported appearance of endometriosis on ultrasonographic examination is nonspecific and may change during the course of a menstrual cycle (17-19). Altogether ultrasonography should be applied preoperatively in a suspicious case of endometriosis. We had also applied USG for all our three cases. Computed tomographic scans and magnetic resonance imaging are also useful in ruling out incisional hernias and showing a direct association of the mass and the abdominal wall, but they do not provide a definitive preoperative diagnosis (15,16,20), we didn't use these techniques preoperatively. Fine-needle aspiration biopsy had been reported in some studies to help confirm the diagnosis and effectively eliminate the possibility of malignancy (16,21), but in other studies it has been reported of inconclusive help or needless (20,22), or even to increase the risk of recurrence (23). A large retrospective study has concluded that fine-

needle aspiration (FNA) or percutaneous biopsy should not be suggested when endometriosis is suspected (24), so we did not perform FNA in our patients. Simple surgical excision of the endometriosis is the treatment of choice, with sparing of the umbilicus when possible, in the case of umbilical endometriosis (25) Local recurrence after adequate surgical excision is uncommon.

Malignancy of ectopic endometrial tissue has also been reported (26). Thus wide excision of endometriosis in the present cases enabled us to gain clear surgical margins to avoid leaving the rest of the ectopic tissue.

The possibility of coexisting pelvic endometriosis should be investigated by Postoperative follow-up with a gynecologist. Endometriosis should be considered in any woman of childbearing age with a painful or tender abdominal mass. Imaging studies such as ultrasound, CT or MRI are non-specific; thus, a biopsy is necessary to make a definitive diagnosis. Endometriosis should be considered in the differential diagnosis of abdominal wall lesions even if not associated with a scar of a previous operation. Biopsy is diagnostic and surgical excision is curative (27). In conclusion, although there are very few cases reported in the literature in whom a surgical history was absent (13), all our three patients had this unique characteristic. And since it is often diagnosed only upon histological examination postoperatively, it should be emphasized in the differential diagnosis of abdominal wall masses.

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