

A laparoscopic surgery for deep infiltrating endometriosis and the review of literature

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Summary

Deep infiltrating endometriosis (DIE) is a complex disorder that affects 6% to 12% of all women in the reproductive age. In these cases, treatment is more difficult with possible incomplete pain relief and a considerable possibility of recurrence. Here, the authors report a case of a 41-year-old woman with a history of severe dysmenorrhea, dyspareunia, and chronic pelvic pain because of deep infiltrating pelvic and peritoneal endometriosis, who underwent segmental colorectal resection three years ago for large bowel obstruction due to colonic endometriosis. To ensure complete removal of the disease, the authors injected gonadotropin-releasing hormone agonist (GnRHa) in three periodic cycles before laparoscopic surgery. We performed laparoscopic hysterectomy and deep pelvic nodule resection and pelvic adhesion releasing. After five days of hospitalization, the patient recovered totally and was not experiencing any pain at three months' follow-up. Laparoscopic treatment has more become the standard of treatment for DIE. A review of the literature regarding pathology and physiology of DIE and surgical aspects of its management is undertaken. The authors would like to renew the current laparoscopic surgery in curing the DIE, as they believe that this is also a useful addition to the literature.

Key words: Deep infiltrating endometriosis; Gonadotropin-releasing hormone agonist; Laparoscopic surgery.

Introduction

Deep infiltrating endometriosis (DIE) mostly infiltrates the uterosacral ligaments, peritoneum, vagina, bladder, rectum, and rectosigmoid colon and can cause a complete distortion of the pelvic anatomy [1, 2]. Reported cases that received segmental colorectal resection and had recurrence have been seldom reported [3]. Here, the authors report a case of a 41-year-old woman with a history of severe dysmenorrhea, dyspareunia, and chronic pelvic pain due to deep infiltrating pelvic and peritoneal endometriosis, who received segmental colorectal resection three years ago for large bowel obstruction owing to colonic endometriosis. A review of the literature regarding pathology and physiology of DIE and surgical aspects of its management is undertaken.

Case Report

A 41-year-old woman, with a more than ten years of severe dysmenorrhea, dyspareunia and chronic pelvic pain, had received segmental colorectal resection three years ago for large bowel obstruction owing to colonic endometriosis. Gynecological examination showed multiple solid nodules in the vaginal posterior fornix and the patient felt severe pain upon palpation. The size of the uterus was approximately 8×6×6 cm. The left appendix area was thickened. Transvaginal ultrasound image showed adenomyosis and a 2.0×1.0-cm encapsulated mass in the left appendix area (Figures 1A, B). MRI showed that the shape of uterus was unclear because of deep infiltrating endometriosis (DIE) and the deep pelvic and

peritoneal endometriosis which had destroyed the normal anatomy of Douglas (Figure 1C). Laboratory tests revealed an elevated cancer antigen 125 (CA 125) of 109 U/ml in the serum. Laparoscopic view of the bowel and peritoneal endometriosis invaded the sigmoid colon, and enlarged uterus and anatomical distortion of the Douglas were revealed (Figure 2A). The revised American Fertility Society (rAFS) score was 112. The present authors performed laparoscopic hysterectomy and deep pelvic nodule resection and pelvic adhesion releasing. The view of the pelvic after the operation and the ultimate specimens are shown in Figures 2B, C. Pathologic diagnosis confirmed DIE (Figures 3A, B, C). After five days of hospitalization, the patient recovered totally and was not experiencing any pain at three months' follow-up. The level of CA125 had reduced almost to a normal level.

Discussion

Endometriosis has been defined as a chronic disease which is characterized by the presence of endometrial glands and stroma outside the uterus. As a consequence, endometriosis can cause different symptoms such as chronic pelvic pain, infertility, dysmenorrhea, deep dyspareunia, cyclical bowel or bladder symptoms (eg, bloating, constipation, diarrhea, rectal bleeding, and hematuria), and abnormal menstrual bleeding according to the location of ectopic endometrium [4]. The disease is histologically categorized into three types: peritoneal superficial endometriosis (SUP), ovarian endometrioma (OMA), and deep infiltrating endometriosis (DIE). DIE is defined as en-

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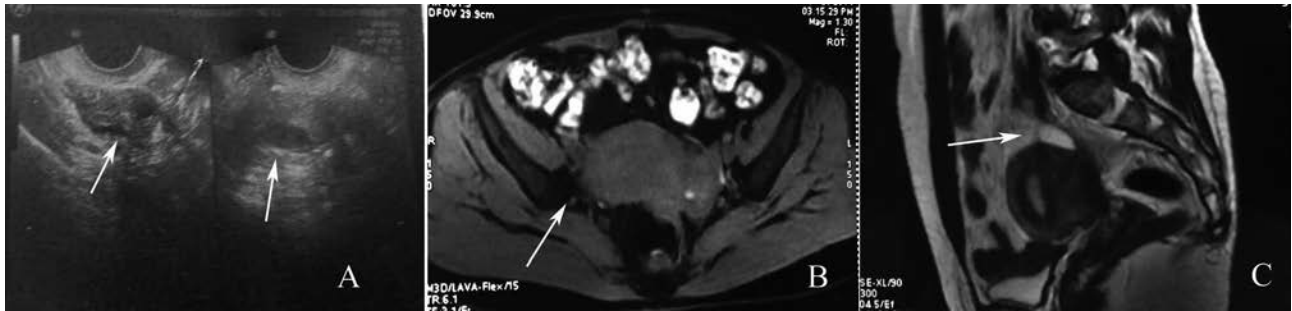


Figure 1. — A: Transvaginal ultrasound image, sagittal view. The enlarged uterus and adenomyosis and a 2.0×1.0-cm encapsulated effusion in the left appendix area (white arrow). No gap in the pouch of Douglas (red arrow). B and C: MRI showing the shape of uterus is unclear because of DIE (black arrows) and the deep pelvic and peritoneal endometriosis which destroyed the normal anatomy of Douglas and sigmoid colon and utero-vesical fold (white arrow).

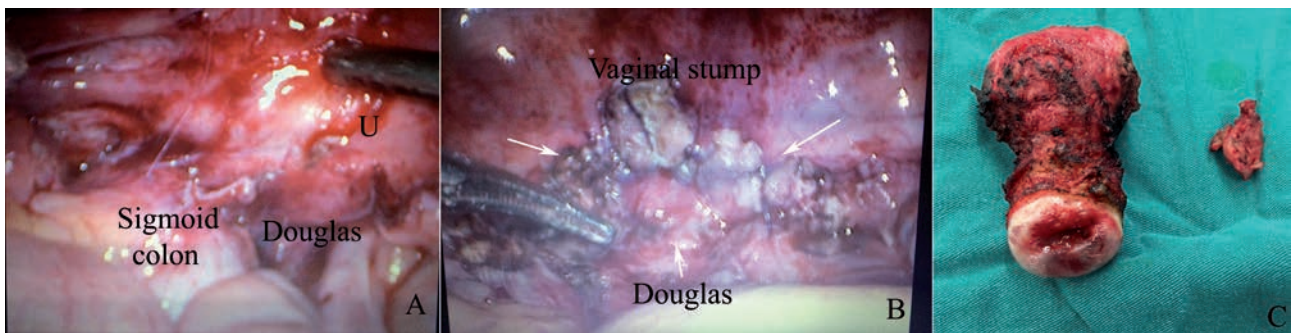


Figure 2. — A: Laparoscopic view after the superficial pelvic adhesion releasing. The deep peritoneal endometriosis which destroyed the normal anatomy of Douglas and the enlarged uterus (U) and the serious adhesion of Sigmoid colon. The authors performed hysterectomy and deep pelvic node resection and pelvic adhesion releasing. The ectopic endometriosis has been basically removed. B shows the pelvic structure after the operation. C shows the resected uterus and the deep pelvic and peritoneal nodule.

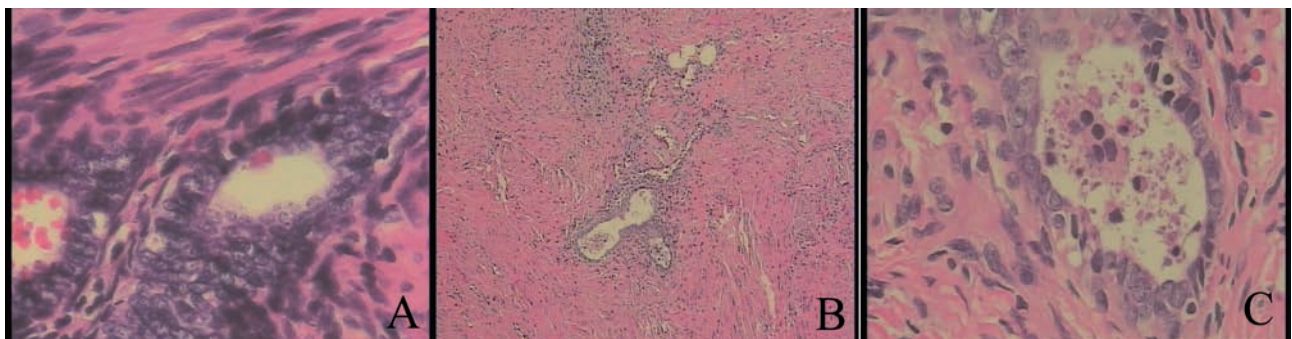


Figure 3. — Final pathologic results which show a deep infiltrating endometriosis. A: immunohistochemical staining for adenomyosis (×400), B: hematoxylin-eosin stain (×50), and C: immunohistochemical staining (×400) for pelvic and peritoneal nodule.

dometriosis located more than five mm beneath the peritoneal surface [3]. From 6% to 12% of women in their reproductive period are affected by DIE [5].

DIE mostly infiltrates the uterosacral ligaments, peritoneum, vagina, bladder, rectum, and rectosigmoid colon and can cause a complete distortion of the pelvic anatomy [1, 2].

Little is known about DIE; the persuasive cause to explaining DIE is the menstrual reflux theory.

According to anatomical, surgical, and pathological findings, DIE seems to originate from intra-peritoneum rather than extra-peritoneum [6, 7]. Extra-peritoneum endometriosis may potentially result from vascular or lymphatic dis-

semination of cells to non-gynecologic sites. These sites include lungs and pleural cavity, skin, lymph glands, and brain [8]. Pelvic endometriosis may infiltrate the pelvic wall and somatic nerves causing severe neuropathic symptoms. However, the severity of the symptoms of endometriosis do not always correlate with the anatomic severity of the disease [9].

Although the etiology of DIE remains unclear, the therapy of DIE is of great urgency to alleviate the suffering of the patient. GnRHa administration remains the best therapeutic treatment for affected patients to reduce the tumor and pathologic nodes in size before surgery [10]. After gonadotropin therapy, an accurate preoperative evaluation of the extension of endometriotic lesions is essential for a successful outcome [11]. This case suggested that preoperative gonadotropin therapy could be effective for locally advanced DIE. It seems that it has played an important role on surgical success when the surgeon is able to completely separate DIE. Laparoscopic management for DIE is a safe and feasible procedure [12], which can show the pathologic location of DIE easily and reduced the operational time [13]. Laparoscopic hysterectomy, therefore, should be the preferred surgical option for women with severe pelvic endometriosis who require a hysterectomy. Also the deep pelvic and peritoneal nodule and the pelvic adhesion are also excised. Just as this case, after five days of hospitalization, the patient recovered totally and the follow-up of three months confirmed that the patient did not experience any pain. The effectiveness of the surgery was satisfactory. It also showed a short intensive care and hospital stay, with a rapid recovery.

This case implies that GnRHa therapy plays an important role on surgical success when the surgeon is able to completely separate DIE. Laparoscopic management for DIE is a safe and feasible procedure.

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