

Laparoscopic “Shaving” for Infiltrative External Adenomyosis of Bowel Muscularis and Concomitant Deep Infiltrating Endometriosis

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Abstract

Deep infiltrating endometriosis (DIE) is a common finding in patients diagnosed with adenomyosis. Women commonly present with severe, incapacitating dysmenorrhea. We report a case of severe dysmenorrhea and lower abdominal tightness for 4 years, diagnosed with posterior adenomyosis. The patient underwent surgery and DIE involving the rectosigmoid and coexisting uterocervical adenomyosis infiltrating bowel muscularis successfully diagnosed and treated using laparoscopic “shaving” technique. Dysmenorrhea significantly resolved after surgery. Laparoscopic surgical “shaving” technique for external adenomyosis infiltrating Rectosigmoid muscularis is feasible, where uterine preservation is desired.

Keywords: Adenomyoma, adenomyosis, deep infiltrative endometriosis, endometriosis, laparoscopy, rectosigmoid endometriosis, shaving technique

INTRODUCTION

Endometriosis affects 5%–15% of women in their reproductive age, causing chronic pelvic pain, dysmenorrhea, dyspareunia, dyschezia, lower abdominal pain, and infertility.^[1,2] There is a strong prevalence of adenomyosis in patients affected by endometriosis which stands at 21.8% in reports.^[3] In deep infiltrating endometriosis (DIE), there seems to be an even higher correlation.^[4] Of recent note, DIE and adenomyosis were suggested as two forms of the same disease.^[5]

In patients affected by adenomyosis, significant decrease in clinical pregnancy rate was noted;^[6,7] However, in cases of (DIE), this issue remained controversial.^[8] Infertility associated with adenomyosis emerges as a new clinical

dilemma, as women tend to conceive at an advanced age in modern society.

Operation serves as the gold standard for diagnosis and provides the definite treatment of adenomyosis and DIE. Coexistence of these two diseases makes preservation of the uterus more difficult. The authors report a case of DIE involving the rectosigmoid and coexisting uterocervical adenomyosis infiltrating bowel muscularis successfully diagnosed and treated using laparoscopic “shaving” technique.

CASE REPORT

A patient is a 40-year-old female (G3P1AA2) who had undergone laparoscopic surgery for endometrioma in

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2003. Subsequently, laparoscopic enucleation for bilateral endometrioma was done in February 2011 for recurrence. Revised American Society for Reproductive Medicine Score: 118. She had a Caesarean section in year 2013. She had no other known comorbidities. *In vitro* fertilization was attempted but to no success.

Chief complaint was dysmenorrhea for 4 years and excessive menstruation noted for 1 year duration. Chronic pelvic pain was also a feature. The patient did not reveal any dyspareunia or dyschezia. In September 2019, her serum CA125 level was elevated at 155.5U/ml; CA 199: 25.2 U/ml. Transvaginal ultrasound on 2019/01/10 showed a 3.67 × 3.17 large heterogeneous nodule at posterior uterocervical region, with disruption of junctional zone. For this, adenomyosis was suspected [Figure 1]. Medical treatment was suggested but refused by the patient.

Laparoscopic adenomyomectomy was performed on 2019/02/25. Transumbilical incision was made and XS Alexis wound retractor inserted. Three ancillary ports were placed. Extensive adhesions presented around the uterus, including left fallopian tube and omentum adhered to left uterine wall. On top of that, anterior uterovesical peritoneum was adhered to anterior low corpus, presenting an exaggerated suspension of uterus to the anterior abdominal wall in a “hammock” fashion. This was likely due to previous cesarean delivery [Figure 2a].

Adhesiolysis was done with Harmonic and Plasma Kinetic Scalpel (DIE) was encountered at posterior uterocervical region with anterior rectosigmoid. Total obliteration of Cul-de-sac was noted. On closer inspection and examination, external adenomyosis arising from posterior uterocervical region was found infiltrating into muscularis layer of anterior recto-sigmoid with no clear plane of demarcation [Figure 2b].

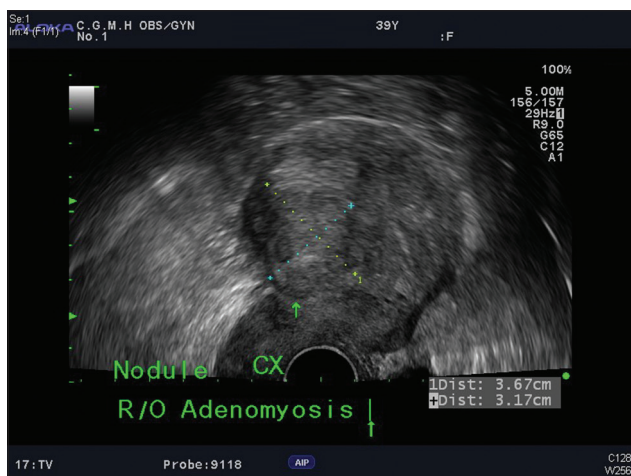


Figure 1: Transvaginal ultrasound showed a 3.67 × 3.17 large heterogeneous nodule at posterior uterocervical region, with disruption of junctional zone (Adenomyosis suspected)

Separation of the posterior uterine corpus and anterior rectosigmoid was done by “shaving” technique. A rectal probe was inserted by assistant, manipulating the rectal lumen to right and left, as well as up and down direction to aid gradual dissection. Concurrently, a horizontal incision was made at fundoposterior aspect of uterus for adenomyomectomy [Figure 2c]. This incision on uterus was extended right and left lateral downward to reach (DIE) tissue at rectosigmoid junction. This formed a “Horse-Shoe” shape of dissection. This dissection is then extended to involve the rectosigmoid tissue that needs to be removed. The adenomyotic and DIE tissue was removed “*en bloc*.” Uterus incision was closed with 1-0 monocryl 1-0 Barbed suture [Figure 2d]. “Air Bubble Leak Test” was performed through anus with no rectal perforation found. The total operation time was 2 h 50 min.

Two gram of specimen was retrieved for pathological examination, which confirmed displaced endometrial gland and stroma in myometrium. Histopathology also confirmed endometriotic tissue in specimen.

The patient was discharged on day 2 post-laparoscopy. She has been on regular follow-up at our clinic ever since. Her CA-125 level has returned to normal range.

DISCUSSION

In this case, ultrasonography features showed features suggestive of adenomyosis and patient’s clinical features supported the diagnosis of adenomyosis with possible recurrence of endometriosis. Magnetic resonance

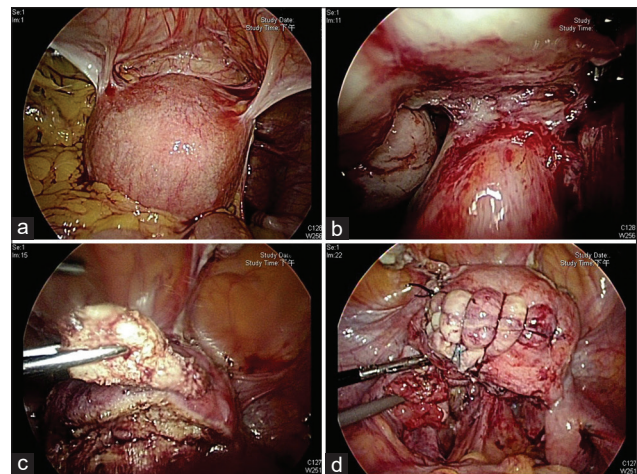


Figure 2: (a) Anterior uterovesical peritoneum was adhered to anterior low corpus, presenting an exaggerated suspension of uterus to the anterior abdominal wall in a “hammock” fashion (b) external adenomyosis arising from posterior uterocervical region was found infiltrating into muscularis layer of anterior rectosigmoid with no clear plane of demarcation (c) separation of the posterior uterine corpus and anterior recto-sigmoid was done by “shaving” technique (d) uterus incision was closed with 1-0 monocryl 1-0 barbed suture

imaging (MRI) was not performed in this case; hence, the presence of external adenomyosis infiltrating into rectosigmoid muscularis with coexistent endometriosis was only confirmed on laparoscopic examination. MRI can be an important diagnostic marker for Adenomyosis with >12 mm Junctional Zone as well as being helpful in surgical planning.^[9] There is a lack of data and description on how to best proceed with cases of external adenomyosis infiltrating into rectosigmoid muscularis.^[10-16] Multiple theories exist, as to whether Adenomyosis and endometriosis should be considered separate or single entity. Some theories suggested that posterior uterocervical adenomyosis invades the gastrointestinal tract to cause deep endometriotic nodules in rectosigmoid.^[5] A pragmatic approach would be to consider MRI in preoperative surgical planning, involving a multidisciplinary team of radiologists, gynecologists, colorectal surgeons for it is possible to encounter bowel injury in dissection of the rectosigmoid. Fat saturation MRI, if available could prove to be more accurate in making preoperative assessment of pelvic endometriosis and to avail the operating team of extent of adenomyotic tissue involvement.^[17,18] In our case illustration, gradual and meticulous “shaving” akin to that of endometriosis tissue resection is possible and feasible for infiltrative adenomyosis without undue bowel injury. The technique revolves around incision on uterus, then extending incision downwards on the right and left side forming a “Horse-Shoe” shape of dissection. This dissection is then extended to involve the rectosigmoid tissue that needs to be removed. The tissue can then be removed en-bloc through an endobag.

CONCLUSION

Laparoscopic surgical “shaving” technique for external adenomyosis infiltrating rectosigmoid muscularis is feasible. A multidisciplinary team approach will provide optimal outcome for the patient. Due to paucity of data, more research into the optimal surgical technique for the management of such cases should be encouraged.

Ethical review

This study was approved by the institute review board of Chang Gung Medical Foundation, IRB no. 202000518B0 obtained on April 7th, 2020 and informed patient consent was waived by IRB.

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Conflicts of interest

Prof. Chyi-Long Lee, an editorial board member at *Gynecology and Minimally Invasive Therapy*, had no role in the peer review process of or decision to publish this article. The other authors declared no conflicts of interest in writing this paper.

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