



Laparoscopic Repair of a Post-myomectomy Uterocutaneous Fistula in a Nulligravida: A Case Report

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Abstract

Introduction: An abnormal passage connecting the skin and the uterus is the uterocutaneous fistula. It is rarely observed after a cesarean section or a gynecological surgery involving the uterus. The presence of an infection further complicates the management. In countries such as India where tuberculosis is highly prevalent, *Mycobacterium tuberculosis* should be ruled out.

Case Presentation: A 29-year-old nulliparous woman who had undergone a laparotomy for removal of a large fibroid for primary infertility presented with complaints of abdominal pain and discharge from the scar site. These symptoms did not resolve with antibiotics and analgesics. An ultrasonography was performed and a fistulous tract extending up to the endometrium was revealed. She underwent a laparoscopic resection of the fistulous tract following which she was symptom free.

Conclusion: One of the rarely observed complications following laparotomies and cesarean section is a uterocutaneous fistula. It is even rarer in women with no previous pregnancies. The management involves adhesiolysis and layer by layer closure of the uterus and abdomen wall after excising the tract. Most often a repeat laparotomy is performed to treat the condition, but in the current times it is well known that repeated open surgeries in the peritoneal cavity increase the chances of adhesions which can reduce the chances of pregnancies in nulliparous women. Hence, this article shows a successful outcome of laparoscopic uterocutaneous fistula repair.

Keywords: Uterocutaneous fistula, Uterine diseases, Cesarean section, Pregnancy, Myomectomy, Laparoscopy

Introduction

An abnormal pathway between a visceral organ and the skin or between two visceral structures is called a fistula. Fistulas involving the uterus are uterocolonic or uterovesical (1). A rare postoperative complication involving the uterus is the uterocutaneous fistula which is an abnormal pathway between the skin and the uterus. It can occur after surgeries involving the uterus such as cesarean section, hysterotomy, or myomectomy. The other etiologies are endometriosis, intra-abdominal infections, post-operative drain use, and dislocated intrauterine devices (2). A uterocutaneous fistula generally presents with chronic discharge from the wound site which may be serous or purulent. If the fistula extends into the endometrial cavity, it may be characterized by cyclical bleeding. The diagnosis is usually based on imaging modalities such as ultrasonography, fistulography, and magnetic resonance imaging. This case report describes a post myomectomy uterocutaneous fistula which was repaired to enhance fertility.

Case Presentation

A nulliparous woman aged 29 years referred with complaints of pain in the abdomen and discharge from post laparotomy wound for 3 months. She had previously

undergone a laparotomy for the removal of a large myoma on the anterior uterine wall which was suspected to have been the cause of her subfertility. She has been married for the last 5 years but has never conceived since then. After discharge, she did not have any symptoms of pain in the abdomen, discharge from the wound, vomiting, fever, or other manifestations. A month after surgery, she had some discharge from a point on the right lateral part of the scar. She was readmitted and treated with antibiotics but was not relieved of her symptoms. Hence, she was referred for further management. The discharge was cultured and Methicillin-resistant *Staphylococcus aureus* was detected which is sensitive to linezolid. A tuberculosis polymerase chain reaction (PCR) test was performed on the discharge which was found to be negative for mycobacteria. In the ultrasonography examination, the uterus and the bladder appeared to be plastered to the anterior abdominal wall. When the probe was placed over the site of discharge, a tract connecting the skin to the myometrium was revealed (Figure 1). Apart from this, the ultrasonography was unremarkable. The condition and pre-operative investigations were explained to the patient. Intravenous linezolid was started prior to the surgery for 48 hours. A diagnostic hysterolaparoscopy was planned. The uterus and the bladder were plastered to the anterior



abdominal wall almost up to the fundus of the uterus (Figure 2). A probe was passed through the fistulous tract and hysteroscopy was performed to see if the probe was visible in the uterine cavity (Figure 3). The probe was not visible in the distended uterine cavity and this confirmed that the fistula was restricted to the myometrium. A harmonic scalpel was used to carefully dissect the uterus and the bladder from the anterior abdominal wall and the part of the tract entering the uterus was cauterized (Figure 4). Following this, a small incision was made encircling the point of discharge, the entire fistulous tract was excised and the abdomen was closed in layer (Figure 5). The patient was advised to get discharged on the second post-operative day and to continue oral linezolid (600 mg) twice daily for 5 days. The suture removal was performed on the 10th post-operative day. The histopathology report was suggestive of a fistulous tract lined by flattened epithelial cells and composed of dense fibrous tissue with focal speckled calcifications with chronic inflammatory cells (Figure 6). She was then advised to refer for follow-up after a month. The wound had healed well and she

was symptom free on review. After a year, the patient was reviewed for elective cesarean section at 38 weeks of gestation and she delivered a male baby weighing 3.25 kg.

Discussion

Most cases of uterocutaneous fistula have been observed after classical cesarean section and other gynecological surgeries due to improper closure of the uterus and the layers of the anterior abdominal wall or drains left behind due to post-partum hemorrhage. However, an uterocutaneous fistula seen after a myomectomy in nulliparous women is extremely rare. Postoperative infections weaken the sutures and prevent proper approximation of the tissues. Tuberculosis has also been known to cause uterocutaneous fistulas (3). The most common symptoms associated with an uterocutaneous fistula are chronic discharge from the wound site and abdominal pain. The depth of the fistula is generally measured using imaging modalities such as ultrasonography, fistulography with a contrast dye, CT scan, and MRI. Among these imaging modalities, contrast-enhanced MRI provides proper delineation and

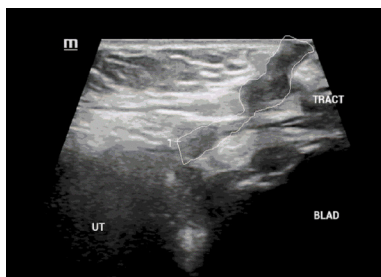


Figure 1. Ultrasonography Showing the Fistulous Tract.

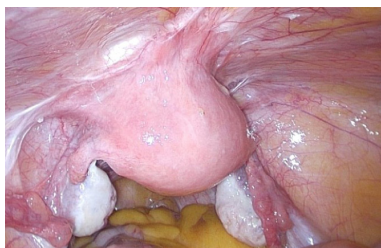


Figure 1. Laparoscopic Image Showing the Uterus Plastered to the Anterior Abdominal Wall

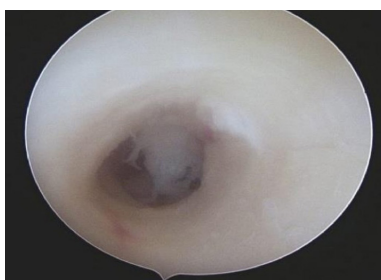


Figure 3. Hysteroscopy Showing Normal Uterine Cavity.

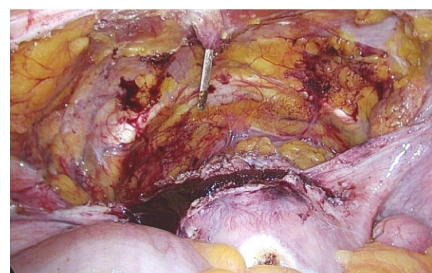


Figure 4. Probe Passed Through the Fistula after Dissection.



Figure 5. Excised Fistulous Tract.

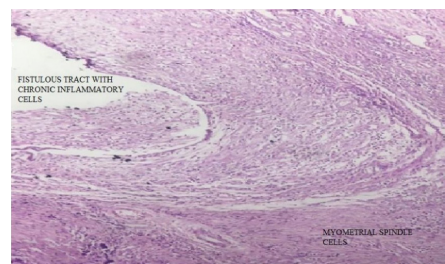


Figure 6. Histopathological Examination Showing Fistulous Tract Infiltrated by Chronic Inflammatory Cells.

good resolution of the soft tissue and helps understand the extent of the fistula. Additionally, it helps in the assessment of other pelvic organs (1). Although there are not any clear guidelines on how a uterocutaneous fistula is managed, surgery by excising the fistulous tract and step-wise closure has been the accepted mode of treatment (4). There have been studies suggesting the use of gonadotropin-releasing hormone agonist which prevents menstruation, thereby leading to the atrophy of endometrial tissues in the fistulous tract and closing of the tract (5). However, further studies providing ways of medical management are required. Surgical management by laparoscopy has been rarely described in the literature but it provides an excellent vision of tissue planes and prevents complications. Moreover, the healing of the wound is enhanced due to smaller incisions. The main outcome of the repair of a uterocutaneous fistula is that fertility is enhanced. Adhesiolysis and proper closure of the layers help in improving tubal motility, reduce the chance of an ectopic pregnancy and improve the chance of intrauterine gestation. In the current era of minimal access surgery, laparoscopy is definitely considered superior to laparotomy as an ideal mode of repair of a uterocutaneous fistula.

Authors' Contribution

AR: Collection of data and drafting the article. SN: Revising it critically and providing final approval of the version.

Conflict of Interests

Authors declare that they have no conflict of interests.

Ethical Issues

Informed consent was obtained from the patient for publication of the report.

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