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Case Report

Utero-Cutaneous Fistula After Open Abdominal Myomectomy: A Case Report

Georges KOZAH*, Labib RIACHI, Paul MOARBES, Souzane ISKANDAR, Ihsan SAYOUR, Rawane EL ASSAAD, Rim KARAKI, Naameh MOUSSAOUMAY, Wouroude ELMOSTAFA, Hrant GHAZELIAN, Toni AZZI & Saad EL DAOU

Department of Obstetrics and Gynecology, Levant Hospital, Beirut, Lebanon

***Correspondence to:** Dr. Georges KOZAH, Department of Obstetrics and Gynecology, Levant Hospital, Beirut, Lebanon.

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Abstract

Novel minimally invasive surgery technique is a new option for the treatment of this condition. We hereby, are reporting a case of a 42 years old woman who developed an uterocutaneous fistula 3 months after myomectomy and was treated by minimally invasive supracervical hysterectomy and fistulectomy.

Introduction

A fistula is a communication between two epithelium-lined surfaces. It may occur after traumas, radiation, injuries, infections, and surgeries involving the abdominal or pelvic organs. The inflammatory process caused will develop an adherence between the tissues, and will chronically lead to the abnormal connection between them [1]. Most uterine fistulas are vesico-uterine, recto- uterine or cervico-vaginal. An uterocutaneous fistula (communication between the uterus and the skin) is a very rare condition, and there are only few cases reported in the existing literature. The causes include multiple surgeries, incomplete closure of the incisions, anemia and diabetes [2]. We describe a patient with this kind of rare fistulas after multiple surgeries. Eventually, she had a successful repair using for the first time a robotic assisted approach with a fistulectomy and a supracervical hysterectomy in Lebanon.

Case Presentation

A 42-year-old woman was referred to our clinic with a utero-cutaneous fistula that presented as an abdominal incisional scar discharge and bleeding associated with her menstrual cycle. It started three months after an open abdominal myomectomy for a single large anterior fibroid done in IRAQ. She had a C-section that was done in May 2019, at that time they also removed an ovarian mass, which pathology showed a grade one immature teratoma. Two weeks after her myomectomy, she started having vague abdominal pains with a low grade fever. An ultrasound showed an irregular infra abdominal wall fluid collection above the level of the uterine fundus (6.5*4.5cm) that communicated with another deep fluid collection anterior to the uterus. Surgery was scheduled to evacuate the collection. After two months, she started having a malodorous abdominal incisional discharge, and a low grade fever. Another ultrasound found a sinus tract seen at the lower abdominal wall about 35mm in depth, the sinus opened into the pelvic cavity and showed a connection with the uterine fundus, a second collection connected to the fundal region measuring (35 *33) mm was detected . She was started on antibiotics Meropenem (1g IV q 12 h) for 10 days. Her fever subsided, but the malodorous discharge persisted affecting her quality of life. The patient was referred to our clinic in Beirut.

A third ultrasound was done showing the same findings. The patient was started on Ertepenem (Invanz). A CT scan showed a hypodense area in the left aspect of the uterine body, measuring (4.9*4.8cm), with an enhancing tract starting from the anterior aspect of the uterus coursing anteriorly through the lower anterior abdominal wall and reaching the skin. The patient had no wishes for future childbearing (she had 7 children, 6 NSVD and one C-section) and underwent a Robotic supracervical hysterectomy with a fistulectomy and an incisional repair. We noted intraoperatively, extensive adhesions of the bowel with omental tissues wrapped around the fundus of the uterus all the way extending to the anterior abdominal wall covering the fistula. A small catheter was introduced from the external opening of the fistula at the skin level, and travelled through the tract into the right corneal part of the uterus. Endometrial epithelialization of the fistulous tract was grossly visible during the procedure. This was facilitated by the 3D, high definition, and up to 10 times magnification of the robotic platform. Extensive lysis of adhesions separating the uterus from the abdominal wall, and a supracervical hysterectomy were successfully completed. The left ovary was preserved, the right one was removed during her previous C-section.

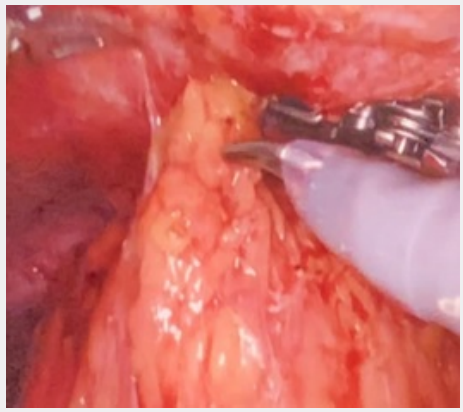

Figure 1: *Dissection of the fistula from the anterior abdominal wall.*

Figure 2: *The external opening of the fistula.*

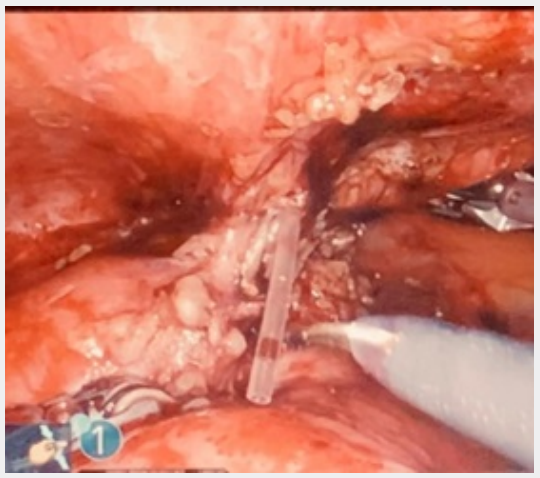

Figure 3: *The catheter introduced from the external opening of the fistula reached the uterus.*

Discussion

Uterocutaneous fistulas are the rarest form of all fistulas, and whose pathophysiology is not fully understood. Their diagnosis and treatment may be difficult and challenging.

Blood leakage from the incision scar during menstruation is present in 65% of the cases of UCF, and malodorous discharge with a constant fever is present in 80% of the cases [3]. This kind of fistulas has various etiologies that can be categorized into 2 big sections [4]:

• Surgical Conditions: drain use, iatrogenic trauma, multiple abdominal surgeries, and incomplete closure of uterine wounds.

• Maternel Conditions : endometriosis, diabetes, anemia. Intra-abdominal sepsis or infectious causes.

Dragoumis *et al* [5] , reports have shown fistulas presentation after septic abortion [6], pelvic abscesses removal. Infection with actinomycosis due to intrauterine devices [7], curettage, difficult vaginal delivery, and the use of forceps. Our patient had a fistula following an open abdominal myomectomy.

In a recent case series by Rezaei *et al*. reported a co-existence of a uterocutaneous fistula and a vesico-cutaneous fistula, in a multiparous lady with two previous cesarean sections [8].

The time of presentation for this kind of fistula is highly variable. Our patient presented 3 months after her myomectomy, however in the literature this can vary from months to 6 years after the last surgery [3, 4].

Treatment for that kind of fistula is usually surgical with or without a hysterectomy depending on the age of the patient and her fertility expectations. Seyhan *et al* [9] reported a patient treated with gonadotropin-releasing hormone agonist (GnRH) alone: The GnRH agonist induces atrophic changes in the epithelium, and assists in the closure of the fistula. This treatment can only be used for smaller fistulas, a large fistula will not respond to the GnRH agonist treatment and the treatment of choice will only be a surgical excision of the fistulous tract.

Surgical excision can be achieved via an open or a laparoscopic approach. We performed the first robotic assisted fistulectomy excision reported in the literature. Thubert *et al* [3] used medical treatment and minimally invasive surgery (laparoscopy) for the excision of a fistula tract. They injected methylene blue through the external opening of the patient's skin to find the tract and excise the fistula. We used a small flexible catheter that was introduced from the external opening of the fistula and we dissected all along the tract of the catheter in order to identify and excise the whole fistulous tract. Also Sonmezer *et al* [6], used another method by injecting the blue dye from the cervix and internal opening and successfully treated their patients.

Conclusion

This case report highlights the very rare possibility of an uterocutaneous fistula occurring in a woman following an open abdominal myomectomy, and the development of an abscess after her surgery. Successful excision of the tract using a minimal invasive surgical approach was done robotically for the first time in the literature using a small catheter inserted in the external opening of the fistula for proper and precise identification.

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