

Recto-fallopian fistula: A case report

Zhao Baokui

ABSTRACT

Introduction: Pelvic inflammatory disease (PID) is a group of infectious diseases of female upper genital tract. Chronic pelvic inflammation can lead to inflammation of fimbriae of the fallopian tube, leading to infertility. In very rare cases the fallopian tube can communicate with intestinal tract. **Case Report:** A 29-year-old Tibetan woman had a history of appendiceal perforation. She underwent salpingography for infertility and a recto-fallopian fistula was found, which was confirmed, during surgery, to be caused by chronic pelvic inflammation. **Conclusion:** Recto-fallopian fistula is very rare and often secondary to chronic pelvic inflammation. **Diagnosis depends on hysterosalpingography, colonoscopy, and other examinations, but the final diagnosis depends on surgery. It was found that surgery for recto-fallopian fistula should be performed as soon as possible. The main surgical methods are salpingoplasty and rectal mucosal repair. Laparoscopic surgery has been widely used in recent years.**

Keywords: Chronic pelvic inflammation, Hysterosalpingography, Recto-fallopian fistula

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INTRODUCTION

Pelvic inflammatory disease (PID) is a group of infectious diseases of female upper genital tract, mainly including endometritis, salpingitis, ovarian abscess of fallopian tube, and pelvic peritonitis. Inflammation can be limited to one organ, but sometimes several organs can be involved at the same time [1]. Salpingitis and salpingo-oophoritis are the most common. The high-risk factors of pelvic inflammatory disease mainly include young women, sexual activity, infection of lower genital tract, operation in uterine cavity, direct spread of inflammation of adjacent organs, etc. The incidence of rectovaginal fistula, vesicovaginal fistula caused by birth injury and pelvic tumor is higher than salpingo-intestinal fistula and uretero-fallopian fistula [2–4]. Chronic pelvic inflammation often leads to the inflammation of the fimbriae of the fallopian tube, which can be converted into tubal obstruction, hydrosalpinx, chronic tubal inflammation, etc. Some women of childbearing age become infertile [5, 6]. Chronic pelvic inflammation leading to tubal-intestinal communication is very rare. This article reports a case of chronic pelvic inflammation after appendix perforation with fistula between fallopian tube and rectum. Finally, it was confirmed by laparoscopic surgery.

CASE REPORT

A 29-year-old Tibetan woman had normal sexual life and was not pregnant for three years after her marriage. The patient had undergone “appendectomy” for “appendix perforation” more than 10 years ago, and recovered well after the operation. Tuberculosis was confirmed seven years ago, and the patient received systemic antituberculous drugs. There was no recurrence after repeated reviews. No long-term recurrent abdominal pain and other signs, such as abdominal tenderness, rebound pain, and palpation of a mass in bilateral adnexal area,

were found. Hysterosalpingography on June 2019: After successful endometrial intubation, 5 mL of iohexol were injected into the uterine cavity which visualized right-sided hydrosalpinx at fimbriae while upper and middle parts of rectum were visualized (frontal X-ray) (Figure 1). Continuous injection of 5 mL of iohexol showed an enlarged rectal imaging (Figure 2), with same results in lateral X-ray (Figure 3).

The patient was admitted to gynecology department on the same day for further diagnosis and treatment. Other examinations: Colonoscopy showed no obvious abnormalities. Preoperative abdominal color Doppler ultrasound showed a small amount of pelvic effusion, bladder and kidney color Doppler ultrasound showed no obvious abnormalities. Neutrophils were slightly higher than that of normal. Blood cell analysis, liver and kidney function, electrolyte analysis, coagulation function, sex hormones, tuberculosis bacillus antibody determination, urine sediment analysis, and fecal sediment analysis were not abnormal.

The patient accepted the treatment on July 2019: Pelvic adhesiolysis + intestinal adhesiolysis + right salpingostomy + rectal mucosal repair by laparoscopic surgery. Surgical procedure: Severe pelvic adhesions, greater omentum, and intestinal tract adhesions to the abdominal wall were observed during the operation. Adhesions were separated in turns. The shape and position of uterus were normal. The uterus and its bilateral appendages were densely adhered to Dow's cavity and intestinal tube. The right tubal fimbriae were enlarged and hydrosalpinx was observed after separation of the adhesion. The right fallopian tube, ovary, and rectosigmoid colon were clearly adhered and we had



Figure 2: Continuous injection iohexol showed an enlarged rectal imaging.



Figure 3: Rectal imaging in lateral X-ray.



Figure 1: Hydrosalpinx at right fimbriae while upper and middle parts of rectum were visualized (frontal X-ray).

separated them. The rectal mucosa was damaged. The rectal inflation test was negative. The rectal mucosa was repaired. The right fimbriae of the fallopian tube were

operated via laparoscopy. The left fallopian tube and ovary were densely encapsulated with adhesions. Local cysts of 4 × 5 cm were seen. The left cyst was excised. The left sacral ligament showed nodules of 2 × 3 cm in size. The nodules were excised. After placement of abdominal drainage tube, the operation was concluded. No special abnormal signs and symptoms were found in the patient after operation. On the seventh day after operation, the patient had full recovery and was discharged. Postoperative pathological examination: (pelvic nodules) A small piece of fibrous tissue presented with chronic inflammation, in which a large number of histiocytes were infiltrated and the focal granulomatous inflammation was seen.

DISCUSSION

Recto-fallopian fistula is very rare, and there is no confirmed incidence statistics at present. The main cause of the disease is chronic abdominal and pelvic inflammation which erodes the wall of fallopian tube and rectal tube for a long time, leading to adhesion between the organs, or even wall of organs rupture to form fistula. Chronic inflammation can be caused by pelvic surgery, pelvic tuberculosis, and other causes [7–9]. The patient had a history of appendix perforation and excision, which resulted in chronic inflammation of the abdomen and pelvis, repeated erosion and stimulation of surrounding tissues, resulting in damage to the rectal wall and fallopian tube wall.

Choi reported a case of fistula between fallopian tube and sigmoid colon caused by periovarian abscess of fallopian tube, which was confirmed and resolved via surgery [4]. Chronic inflammation of abdominal cavity was observed during the operation, which resulted in pelvic viscera adhesion, adhesion of fallopian tube, ovary and rectum (recto-ovario-fallopian adhesion), and rectal mucosa damage.

The fallopian tube is located on both sides of the pelvic cavity, and the orifice of the distal fimbriae mostly covers the medial surface of the upper end of the ovary. Contrast injected during hysterosalpingography can reach the peritoneal cavity through smooth fallopian tube orifices, and can even be smeared on the surface of the colon. When the contrast agent gathers in the paracolic sulcus, it shows the shape of the colon, which is different from the image formed after entering the colon. Therefore, tubo-colonic fistula should be differentiated from normal colon appearance during salpingography.

For severe cases of fallopian tube and ovarian abscess, especially the connection between fallopian tube and intestinal tract, abdominal and pelvic inflammation should be treated actively via open surgery or laparoscopic surgery. At the same time, the pathological segment of fallopian tube should be resected or repaired, the fimbriae of fallopian tube should be everted, and repeated washing should be performed. For the diseased intestinal tract,

researchers do not recommend excision, but suggest mucosal repair, because the intestinal tract excision may cause traumatic injury and complications [9, 10]. Due to the improvement and promotion of laparoscopic technology, its advantages of minimal invasiveness, less complications, and quick recovery after operation have been recognized clinically. More and more researchers recommend it for the treatment of ovarian abscess.

CONCLUSION

Fistula between fallopian tube and rectum (recto-fallopian fistula) is a very rare condition, often secondary to pelvic inflammatory diseases, such as chronic fallopian tube and ovarian abscesses. Hysterosalpingography has important diagnostic significance, and the final diagnosis is usually confirmed during surgery. If the diagnosis of recto-fallopian fistula is confirmed, active treatment is given to avoid serious complications, such as infectious peritonitis.

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Author Contributions

Zhao Baokui – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

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Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Author declares no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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