

Levonorgestrel-releasing intrauterine system as a therapy for repeated pelvic abscess combined with genital deformity: a case report

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Summary

A 33-year-old woman who had vaginoplasty 16 years prior because of atresia of upper one-third vagina developed repeated pelvic abscess, fever, and abdominal pain because of menstrual blood backflow. After anti-infection therapy, abscess incision, and GnRH-a treatment, the abscess could not be cured. In the end the authors inserted a levonorgestrel intrauterine system (LNG-IUS) into the uterine cavity. The abscess became small gradually and disappeared at last. At follow-up at one year, the abscess has not recurred.

Key words: LNG-IUS; Pelvic abscess.

Introduction

Levonorgestrel intrauterine system (LNG-IUS) is a long-acting device which can release low-dose levonorgestrel (20 µg/d) slowly and steadily [1, 2]. Further to the favorable effect of contraception, it can also be used to treat hypermenorrhea [3]. This system has been proven to achieve higher concentrations of progestogens in the endometrium by almost 100-fold compared with oral administration and is effective for up to five years [4]. LNG-IUS has been shown to have excellent tolerability with high-intrauterine [4, 5].

Case Report

A 33-year-old woman was admitted to West China Second Hospital, Sichuan University because of repeated abdominal pain, fever and pelvic abscess on June 19th, 2016. She had vaginoplasty 16 years prior because of atresia of upper one-third vagina. Eleven

years ago, she had appendectomy because of appendicitis. Three years ago, she had an open surgery because of pelvic abscess. Three months before the admission, she developed a fever, pain in left next abdomen, and hypomenorrhea during the period. She was treated by anti-infection at the local hospital, but the effect was poor. One month before the admission, she developed again a fever, abdominal pain, and little vaginal bleeding again. She found there was a painful mass under the abdominal scar. It was diagnosed as abscess by the local hospital. She underwent an incision for the abscess. However the doctors could not open the abdominal cavity because of severe abdominopelvic cavity adhesions. At last they just performed drainage of the abscess in the abdominal wall. In order to prevent the next menstruation, GnRH-a was given to the patient. Each day there was a certain amount of pus flowing out of the incision and the patient still had low-grade fever. Because of the poor treatment effect, the patient came to the hospital on June 19th, 2016. Physical exam showed a portion of the incision which was 2 cm that had not healed. There was some pus flowing out. The tension of abdomen was high. Tenderness and rebound tenderness were both obvious. There was a mass (8×8×10 cm) in the pelvis which was fixed and had no clear

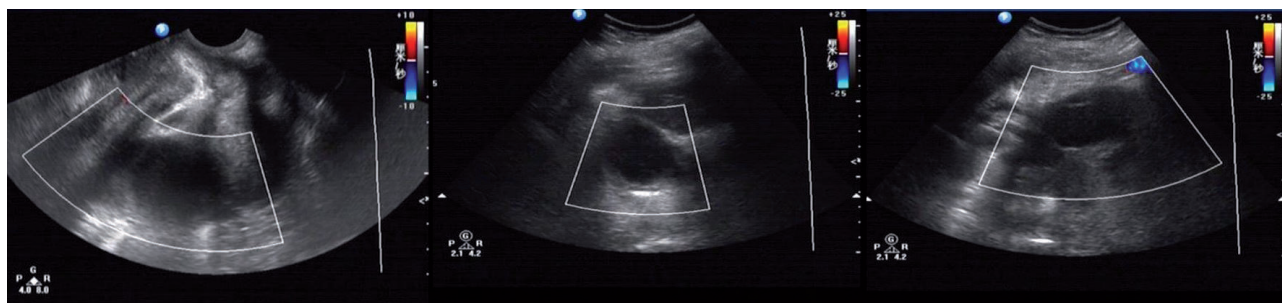


Figure 1. — The abscess in the plevic of ultrasonic examination.

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Figure 2. — The fistula in the abdominal wall.

margin. The vulva was normal. The length of vagina was about 5 cm. The top of vagina was closed and the cervix could not be exposed. Ultrasonic examination showed there was a polycystic mass (8.7×8.0×8.7cm) at the left side of pelvic cavity which was next to the uterus and bladder (Figure 1) and a fistula between the abdominal wall and pelvic cavity (Figure 2); there was a liquid dark (2.1×1.2×1.4 cm) between the cervical canal and upper vagina. The ultrasonic examination also showed left uronephrosis (1.7 cm) and left ureterectasia (0.7 cm). CT image showed that the mass could not be separated from uterus, bladder, anterior abdominal wall, bilateral accessory, and intestines. Doctors from Gastroenterology, Urology, and Gynecology discussed together and agreed that the risk of laparotomy was very high, so puncture of abscess under ultrasound scanning was adopted. After ultrasonic location, the needle could reach the abscess through the abdominal wall but no pus could be drawn out. The vaginal exam showed the mucosa of vagina was very thin and there was a tiny hole about 0.2 cm at the top of vagina. Some mucus flowed from the uterine cavity after the probe was put into the uterine cavity through the hole. The puncture needle could not reach the abscess through the vagina. At last the authors enlarged the hole to 1 cm and applied a drainage tube into the uterine cavity. Ureter stent was placed then. Another a dose of GnRH-a was given to the patient. After the operation, the temperature became normal gradually and the abdominal pain was relieved. One week later, the ultrasonic examination showed the size of the mass reduced to 4.6×4.0×5.2 cm. After one-month treatment, the patient was discharged. However 20 days later, the patient developed a fever, abdominal pain, and little vaginal bleeding again. She was admitted to the hospital again. Physical exam showed that the abdominal incision had not totally healed and some pus flowed out. A painful mass was palpated at the left side of the pelvic cavity. Ultrasonic examination showed a polycystic mass (5.1×5.0×4.7 cm) at the left side of the pelvic cavity with unclear border and dark liquid in cervical canal and superior vagina. Vaginal exam showed that the hole in the top of vagina shrank to 0.5 cm. The authors expanded the hole and applied a drainage tube into the uterine cavity again.

After repeated anti-infection therapy, abscess drainage, and GnRH-a therapy, the complicated illness could not be controlled well. At last, a LNG-IUS was considered by the authors. After the temperature was controlled steadily, a LNG-IUS was placed into the uterine cavity. one month later, and ultrasonic exam



Figure 3. — Abdominal scar.

showed that the liquid in the cervical canal and vagina had disappeared; the size of the mass was 4.7×3.6×4.2 cm. The patient did not develop neither a fever nor abdominal pain again. Two month later the incision had totally healed (Figure 3). Six months later, the mass disappeared. Follow up at one year, the abscess has not recurred. The left ureterectasia had disappeared and the left uronephrosis had decreased from 1.7 to 0.9 cm.

Discussion

The following properties of LNG-IUS assisted the authors to effectively treat this case: continued release of levonorgestrel can prompt the atrophy of the endometrium which decreases the menstrual quantity and even causes amenorrhea. This mechanism decreases the occurrence probability of pelvic abscess which is caused by blood backflow of menstruation. The “T” shape of LNG-IUS and its tail can prevent the adhesion of uterine cavity, cervical canal, and upper vagina. Compared with GnRH-a, the systemic side effects of LNG-IUS are lesser which make the patients accept this treatment method more easily. Only 10% levonorgestrel of LNG-IUS enters the blood and 90% levonorgestrel acts on the endometrium. The adverse reactions of LNG-IUS are lower than systemic medications [6]. LNG-IUS has a low influence on ovarian function; LNG-IUS can continuously release levonorgestrel for five years. The patients do not need to change it during the five years, which avoids

treatment interruption because of the patient missing a dose or several doses of medication. This case provides the effective use of the clinical application of LNG-IUS.

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