Tubo-ovarian Abscess and Uterine Leiomyoma in a 35-year-old woman with 8 years of infertility: A Case Report

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Abstract

Infertility can be influenced by several factors, including the presence of leiomyomas and tubal abnormalities like a tubal abscess or tubo-ovarian abscess which can cause adhesions of the tubes and surrounding tissues or obstruction of the tubes. A 35-year-old woman is diagnosed with primary infertility of 8 years with intramural uterine leiomyoma, right tubo-ovarian abscess, and left tubal abscess with tubal obstruction. Laparotomy myomectomy and salpingostomy surgery were carried out. There were no complications during or after the surgery. The management of infertile patients with leiomyoma and tubo-ovarian abscess who wish to preserve reproductive function requires special attention.

Keywords: *Laparotomy, Intramural leiomyoma, Tubo-ovarian abscess, Infertility*

Introduction

Infertility is one of the major problems affecting 13-15% of couples worldwide. The causes of infertility in women can be due to ovarian, tubal, peritubal and uterine abnormalities.[1] Uterine leiomyoma is the most common benign uterine tumor found in the lower abdomen and affects women in reproductive age. Leiomyomas can be found in 30-40% of all women between the ages of 30 - 40 and are often seen in African women compared to women of other ethnicities.[2] Although its association with infertility is still controversial, it is still a major concern for physicians and patients themselves.[3] A tubo-ovarian abscess (TOA) is a serious complication of untreated pelvic inflammatory disease (PID). TOA is often found in women of reproductive age and nearly 60% of nulliparous women. Long-term complications of TOA include infertility, increased risk of ectopic pregnancy, and chronic pelvic pain. Since most of these patients are of reproductive age, fertility preservation should be considered when deciding on the optimal treatment strategy.[4]

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Case Report

A 35-year-old P0A0 woman self-referred to the Gynecology clinic in KRMT Wongsonegoro General Hospital Semarang, Indonesia with lower abdominal pain. The pain was most significantly felt during the beginning of her menstruation period for 2-3 days. The patient also felt a mass that has been growing since a year ago. A history of white, odorous vaginal discharge was recognized by the patient since 2 years ago, and only appears a few days before menstruation. Every menstrual period the patient feels abdominal and back pain. The patient admitted that she had never sought medical attention for her complaints before. The patient has been married for 8 years with no children. Currently, the patient is sexually active and does not use any contraceptives.

Assessment of the general condition shows no abnormality. Vital signs were measured: her blood pressure was 123/78 mmHg, heart rate 92 beats/minute, respiratory rate 20 breaths/minute, and 36.9^0 C body temperature. The patient weighs 61 kg with 155 cm height and BMI 25.3 kg/m^2, which puts the patient's

nutritional status in level 1 obesity.

On abdominal physical examination, a mass with the size of a baby's head was palpated at the umbilical area, mobile, and has a firm consistency. On gynecological examination, toucher vaginal revealed the size of the corpus uteri was as big as an adult fist. Based on ultrasound examination, an intramural uterine leiomyoma was found with a size of 9.4×8.5×6.4 cm and adnexal mass measuring 8.2×9.5×10.2 cm. The abdominal CT scan demonstrated a 9.51×8.46×9.85 cm leiomyoma, as well as multiple cystic lesions with lobulated septa and regular edges at the right adnexa measuring 7.61×9.91×7.9 cm and oval cystic lesions with regular edges margin at the left adnexa measuring 4.27×3.79×3.25 cm. [Fig 1]. Complete blood count showed hemoglobin 13.1 g/dL, leukocytosis (15.5×10^3/µL) and increased neutrophils (75.4%).The remainder of her laboratory results were within physiological parameters.

The patient was diagnosed with intramural leiomyoma, unilateral tubo-ovarian abscess and 8 years of primary infertility. An exploratory laparotomy was performed with an incision on the uterine wall with cautery, an intramural leiomyoma mass with a size of 8×8×7cm was found, then myomectomy was performed [Fig.3., Fig. 4]. On the right adnexa, the tube was enlarged with the size as large as an adult fist, adhesions to the surrounding tissue were released, and the ruptured tube secreted pus [Fig.2] which gave the impression of a tubo-ovarian abscess, then the abscess was drained salpingostomy was performed. The left adnexal was also enlarged and the ovary tube was widened with tubal obstruction. A salpingostomy was performed. The pelvic and abdominal cavity was washed with normal saline. The operation was completed in 1 hour 8 minutes. The estimated total blood loss was 50 cc. The collected mass was sent for histopathologic examination. There were no complications during and after the surgery. The patient was given a 2 × 1 gr cefotaxime injection afterward. The patient was discharged on the third day in good and healthy condition.

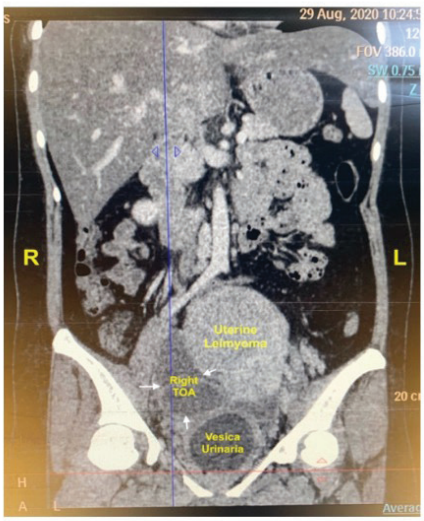

Figure 1. CT-scan examination of abdomen

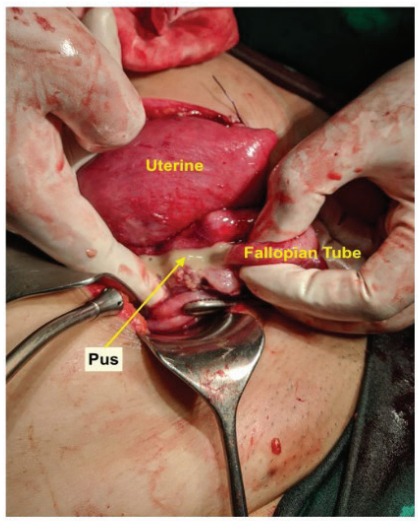

Figure 2. The ruptured tube secreted pus which gave the impression of a tuboovarial abscess

Figure 3. Image showing Uterine with

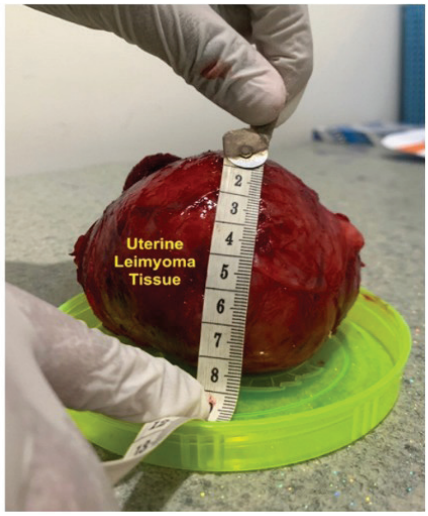

Figure 4. Intramural leiomyoma removed during myomectomy

Discussion

The effects of a uterine leiomyoma on fertility are still controversial. The exact mechanism by which leiomyoma affects infertility is uncertain, but the hypnotized mechanisms are as follows (i) blockage of the fallopian tubes; (ii) changes in tubal motility and prevention of fertilization; (iii) prevention of sperm migration through the cervical canal; (iv) dyspareunia; (v) thin and vascular endometrium; and (vi) abnormal uterine movements.[5]

El Mahdi explained that the location and size of the leiomyoma influence on infertility. Intramural leiomyoma and submucosal leiomyoma with intracavity distortion were associated with lower pregnancy rates, implantation, and live birth rates compared with women without leiomyomas. In previous studies, leiomyomas with a size of 2-6 cm did not affect infertility, however, recent studies have shown that intramural leiomyomas > 4 cm in size affect fertility.[2]

Apart from uterine leiomyomas, TOA that occurs in this patient can be one of the factors that cause infertility. TOA is an abscess that involves the fallopian tubes, ovaries, and surrounding pelvic organs. TOA is common in women of reproductive age and is usually a complication of untreated PID or with inadequate treatment. Tubal obstruction due to TOA can inhibit the reproductive process especially the fertilization stage.[6,7]

Management of TOA and uterine leiomyoma includes exploratory laparotomy, myomectomy, salpingostomy and adhesiolysis. If the patient wishes to preserve her reproductive functions and fertility, myomectomy is the treatment of choice. Pregnancy rates are as high as 50-60% after myomectomy, with favorable obstetric results but postoperative adhesions are of particular concern, as it may harm future fertility.[8]

There are various surgical intervention options for TOA, namely laparoscopic or laparotomy abscess drainage, unilateral or bilateral salpingo-oophorectomy or pelvic clearance. Factors influencing the treatment of choice include previous surgical history, fertility preservation, and the size of the abscess.[9]

In TOA, drainage of the pelvic abscess by irrigation in the abdominal cavity can be considered if fertility is to be maintained. In women with children, salpingo-oophorectomy can be considered to reduce the chance of recurrence and the need for further surgery. Given that the patient has no children after 8 years of marriage, we did not perform salpingo-oophorectomy and chose salpingostomy to maintain the tube.[4]

Conclusion

A 35-year-old woman with 8 years of infertility was diagnosed with intramural leiomyoma and right tubo-ovarian abscess and left tubal abscess, which is treated successfully with laparotomy, myomectomy and salpingostomy. There were no complications during or after the surgery. The patient was discharged three days after the surgery in good health.

Conflict of Interest: There is no conflict of interest

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Ethical Clearance: Taken from the Institutional Ethical Committee.

Declaration of Patient Consent

The patient gave their consent for their images and other clinical information to be reported in the journal.

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