



Laparoscopic Management of Fitz-Hugh-Curtis Syndrome as a Result of Genital Tuberculosis in a Virgin Adolescent Girl

Adölozan Hastada Genital Tüberküloz İlişkili Fitz-Hugh-Curtis Sendromuna Laparoskopik Yaklaşım

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ABSTRACT

Genital tuberculosis is an important cause of infertility and peritubal and pelvic adhesions. A 17-year-old virgin girl presented with chronic pelvic pain. There were bilateral fusiform-shaped adnexal masses, with dimensions of 7×3 cm on the left side and 8×3 cm on the right side. Her surgical findings revealed bilateral dilated tubes and filmy adhesions between the abdominal wall and the liver capsule. Bilateral fimbrioplasty was performed for both of the tubes. The histopathological analysis detected granulomas that predict tuberculosis.

Keywords: Fitz-Hugh-Curtis Syndrome, genital tuberculosis, pelvic inflammatory disease

Öz

Genital tüberküloz, peritubal ve pelvik yapışıklıklara sebep olması sebebiyle infertilitenin önemli bir sebebidir. 17 yaşında virgo hasta kronik pelvik ağrı sebebiyle kliniğimize başvurdu. Hastada bilateral fuziform şekilli, solda 7x3 cm ve sağda 8x3 cm olmak üzere iki adet adneksiyal kitle izlendi. Cerrahi olarak bilateral dilate tüpler, karın duvarı ve karaciğer kapsülü arasında ise zar şeklinde adezyonlar izlendi. Her iki tüp için bilateral fimbrioplasti uygulandı. Histopatolojik materyalde ise tüberkülozu düşündürülen granülomlar izlendi.

Anahtar kelimeler: Fitz-hugh-curtis sendromu, genital tüberküloz, pelvik inflamatuvar hastalık

Cite as: Eren E, Kaya C, Alay İ, Baytekin FH. Laparoscopic Management of Fitz-Hugh-Curtis Syndrome as a Result of Genital Tuberculosis in a Virgin Adolescent Girl. İKSSTD 2022;14(1):108-111

INTRODUCTION

Perihepatic adhesions between the liver capsule and the diaphragm or the anterior peritoneal surface characterize the Fitz-Hugh-Curtis syndrome (FHCS), which is an extrapelvic manifestation of pelvic inflammatory disease (PID) owing to gonorrhea or chlamydia.^[1] The frequency of symptomatic FHCS is poorly documented in adolescents. In a sole report in-

volving adolescents, the frequency of FHCS was 27/137 (20%) among patients with relatively severe gonorrheal PID.^[2]

Genital tuberculosis (GT) is an important cause of infertility and can cause tubal blockage or peritubal, pelvic, and abdominal adhesions, including perihepatic adhesions.^[1]

After searching for terms and keywords such as "Fitz-Hugh-Curtis syndrome," "adolescent," "virgin," and "genital tuber-



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Received/Geliş tarihi: 13.11.2020
Accepted/Kabul tarihi: 11.10.2021



culosis" in major medical databases, articles from the English literature were extracted. Our case is a unique example of FHCS caused because of tuberculosis in a virgin adolescent girl who was treated using laparoscopy.

CASE REPORT

A 17-year-old virgin girl presented with chronic pelvic and abdominal pain. On examination, her secondary sexual characteristics were found to be well developed. Her height was 163 cm and weight was 52 kg, and her hymen was intact. Her white blood cell count was 9000, C reactive protein level was 9 mg/dL, and serum CA-125 level was 145 U/mL. On performing pelvic ultrasound examination, it was found that her uterus and cervix were normal in size and shape, but bilateral fusiform-shaped adnexal masses were present, suggesting endometrioma or pelvic abscess. Her pelvic MRI scan revealed a bilateral hydrosalpinx with a dimension of 7×3 cm on the left side and 8×3 cm on the right side (Fig. 1). After her laboratory and imaging evaluations, the patient was booked for a diagnostic laparoscopy to exclude pelvic abscess or malignancy. Her surgical findings revealed bilateral dilated tubes attached to both sides of the pelvic wall as well as filmy adhesions between the abdominal wall and liver capsule (Fig. 2). This acute phase was characterized by fibrinous peritonitis of the liver capsule, which is a precursor to the pathognomonic "violin string" adhesions, flaky white or gray exudates on the anterior liver surface, and hemorrhagic areas on the peritoneum.

Both fimbrial openings were closed, and bilateral fimbrioplasty was performed for both of the fallopian tubes. Tissue sections measuring 1×1 cm in size were excised from both tubes for pathological analysis. Abscess flow was observed and culture samples were taken before aspiration. The pelvic cavity was irrigated with 1000 cc saline solution. A 24 F silicone drain was placed in the pouch of Douglas. Her postoperative course was uneventful, and she was discharged on the second postoperative day. Her culture results were unremarkable; however, on histopathological analysis, granulomas, predicting tuberculosis, were detected (Fig. 3). The patient was consulted to an infectious disease clinic for further treatment. Written informed consent for publication was obtained from the patient and her parents.

DISCUSSION

To date, mostly gonorrhea and chlamydia have been considered to be responsible for FHCS. Previous abdominopelvic surgeries, recurrent urinary tract infections, bowel disorders such as Chron's disease are usually suspected for tubo-ovar-

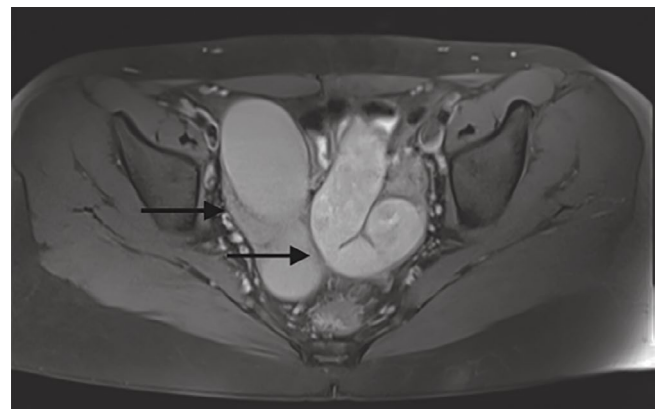


Figure 1. Bilateral dilated adnexal masses (black arrow) suggesting hydrosalpinx with dimensions of 7×3 cm on the left side and 8×3 cm on the right side

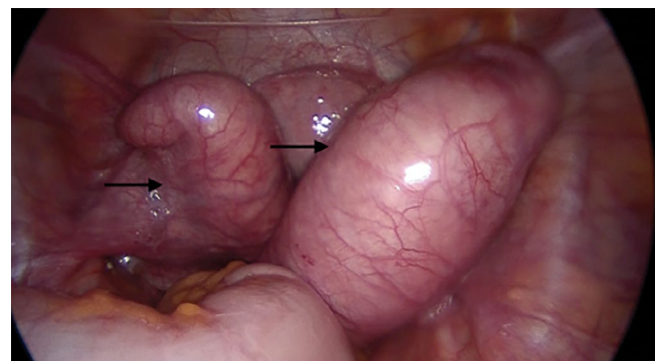


Figure 2. Surgical findings of bilateral pyosalpinx (black arrow)

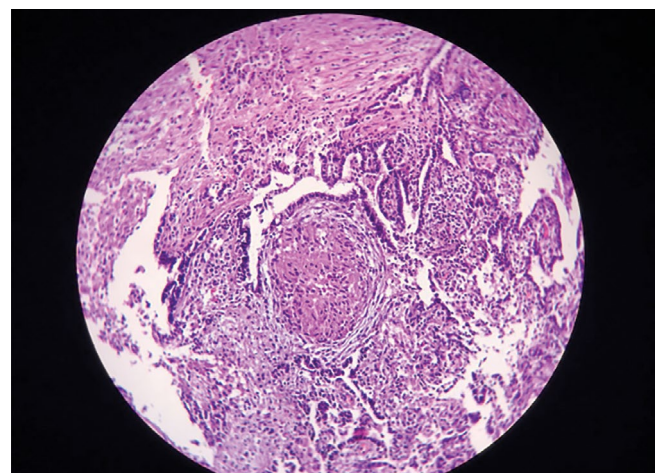


Figure 3. Detail of a tubercular granuloma, hematoxylin, and eosin, 200×

ian abscess formation in adolescent girls with no history of any sexual intercourse.^[3-8] The most commonly speculated cause of infection in this population is the ascent of microorganisms such as *Escherichia coli* from the lower genital tract.^[8-15] However, GT can rarely be accounted for causing FHCS in the adolescent population.^[1] GT can be the cause of different gynecological pathologies, such as PID, ectopic pregnancy, tubo-ovarian masses, or infected ovarian cysts, and nongynecological pathologies, such as acute appendicitis, other granulomatous processes, actinomycosis, and urinary tract infection.^[16] Mostly, infection is caused by inhaling droplets expelled by individuals infected with pulmonary TB. This primary infection, in most cases, is controlled by the immune response.^[17] The bacilli preferentially spread to regions with major partial pressure of oxygen and confluent terminal vascularization, including lung vertices and the female genitourinary tract (especially, the fallopian tube), where they may remain in the latent state for a prolonged period.^[17] Infection of the female genitourinary tract can occur through the lymphatic system, mesenteric nodes, or peritoneum or by direct infection of the gastrointestinal tract, and rarely by sexual transmission of GT which is characterized by adnexal tumors, ascites, and elevation of serum CA-125 levels.^[18] It is difficult to establish a differential diagnosis of GT from ovarian cancer.^[18,19] The management of pelvic abscess differs according to the site of abscess localization, vital signs, use of surgical equipment, and skills of the surgeon. In the literature, most cases of tubo-ovarian abscess are managed by laparotomy and drainage of the pus from the pelvic cavity.^[9,11,13,20] However, laparoscopic surgery should be considered for managing such cases because of its advantages of shorter hospital stay and recovery period as opposed to laparotomy.^[5,8,14]

In our case, the lack of predisposing factors for GT, an uncommon form of presentation, and difficulty in primary diagnosis and differential diagnosis led to GT not being initially suspected. The patient had no known risk factors for GT or pyosalpinx (including AIDS; migration; drug addiction; or vaginal, anal, or oral sexual intercourse). The major limitations of our study were the inability to obtain tissue polymerase chain reaction (PCR) results and the lack of any relevant abscess culture results. However, previous studies also suggested some limitations that PCR gives false-negative results due to contamination and is unable to differentiate between infection and active disease.^[21-23]

In conclusion, although bilateral pyosalpinx in virgin adolescents is rare, physicians should be aware of the possibility of infectious sources other than the lower genital tract and of

laparoscopic surgery as a safe option with a short hospital stay and recovery period.

Disclosures

Informed Consent: Written informed consent was obtained from all patients.

Peer-review: Externally peer reviewed.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

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