

CASE REPORT

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Perihepatitis (Fitz-Hugh-Curtis syndrome): Case report and review of literature

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ABSTRACT

Fitz-Hugh-Curtis's syndrome (FHCS) is defined as an inflammation of the liver capsule associated with pelvic inflammatory disease (PID). Here, we report a case of FHCS of a 37-year-old woman, presented with a history of the right upper quadrant (RUQ) abdominal pain. Physical examination revealed RUQ abdominal tenderness and vaginal secretions, pelvic pain that was denied by the patient. The diagnosis has been raised and a computed tomography (CT) scan was realized showing inflammatory changes in both pelvic and perihepatic regions.

Keywords: Abdominal pain, Liver capsule, Pelvic inflammatory disease, Tomography scanners

How to cite this article

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INTRODUCTION

Fitz-Hugh-Curtis's syndrome (FHCS) is an inflammatory disease of the liver capsule that occurs as a complication of pelvic inflammatory disease in approximately 25% of cases [1]. Curtis first reported this syndrome in 1930 in a female patient who suffered from gonococcal salpingitis. In 1934, Fitz-Hugh reported three female patients who had severe RUQ pain and suffered from gonococcal salpingitis [2]. Fitz-Hugh-Curtis's syndrome is classically occurring in reproductive-aged women with sexual activity; it is seldom reported in men, most likely because men are rarely affected by pelvic inflammatory disease. Men are usually mentioned only as transmitters of the pathogen [2, 3]. Most cases of FHCS are caused by infection with the bacterium *Chlamydia trachomatis* and *Neisseria gonorrhoeae*. *Chlamydia* and *gonorrhea* are common sexually transmitted diseases (STDs). Clinical manifestations are nonspecific and include a sudden onset of pain and discomfort in the right hypochondrium, commonly confused with other hepatobiliary, gastrointestinal, or renal diseases [4]. We report a case of FHCS in a young female patient, which the diagnosis was suggested on the data of the tomodensitometry. We also include a review of the literature.

CASE REPORT

A 37-year-old woman presented with fever, diarrhea, nausea, vomiting, and right upper quadrant abdominal pain. The pain was constant, gradually increasing in severity, and not related to food intake. She denied genitourinary complains. Physical examination revealed right upper quadrant (RUQ) abdominal tenderness, vaginal secretions, and pelvic pain. Laboratory data showed an increase of the white blood cell count and the C-reactive protein values.

Computed tomography scan showed increased enhancement of the hepatic capsule and thickening of perihepatic fat, gallbladder thickening, and perihepatic abscess (Figure 1). It also revealed diffuse infiltration of the peritoneum (Figure 2), and pelvic fat infiltration with bilateral tubo ovarian abscess (Figure 3).

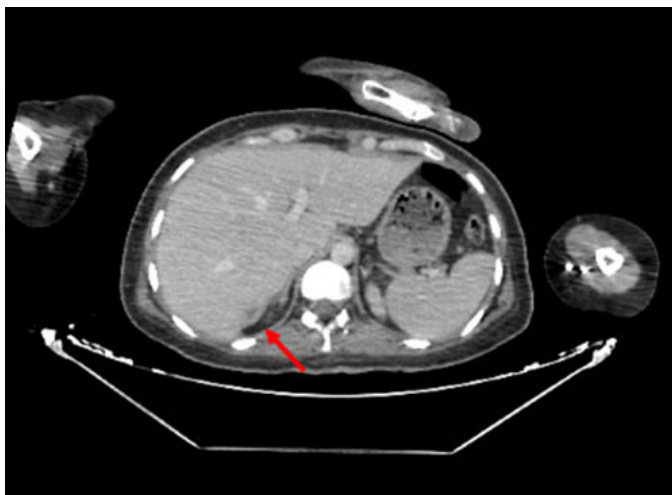


Figure 1: Contrast-enhanced abdominal CT scan in axial dimension demonstrates a perihepatic abscess (red arrow), thickening and enhancement of the mesentery and peritoneal sheets.

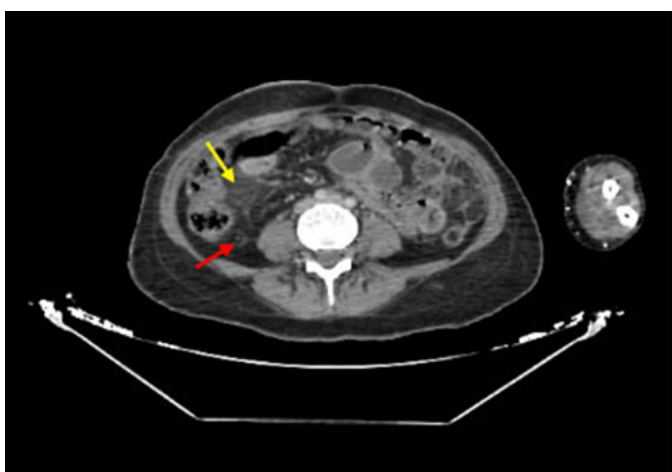


Figure 2: Contrast-enhanced abdominal CT scan in axial dimension demonstrates thickening and enhancement of the mesentery (yellow arrow) and peritoneal sheets (red arrow).

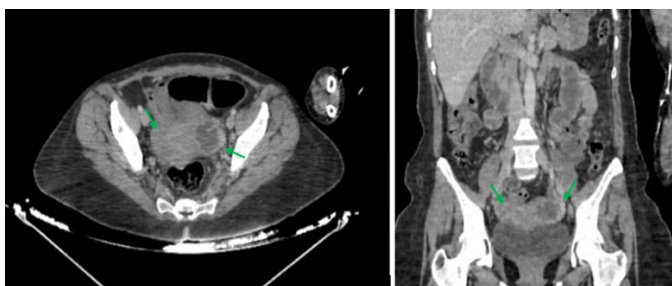


Figure 3: Contrast-enhanced abdominal CT scan in axial and coronal dimensions demonstrates a bilateral tubo-ovarian abscess (green arrows).

The patient had been treated by multiple intravenous antibiotics and was admitted to the operating room to undergo a laparoscopic surgery in order to remove tubo-ovarian abscess. The adhesions were also lysed.

DISCUSSION

Fitz-Hugh-Curtis's syndrome characterized by perihepatic capsulitis and pelvic inflammatory diseases (PID) usually presents with right upper quadrant (RUQ) pain and is frequently associated with symptoms of PID (fever, lower abdominal pain, vaginal discharge) [5].

Microorganisms causing FHCS associated with PID are thought to spread in one of three ways. First, through spontaneous ascending infection, microbes from the cervix or vagina travel to the endometrium, through the fallopian tubes, and into the peritoneal cavity. Thus, it can be complicated by endometritis, salpingitis, tubo-ovarian abscesses, pelvic peritonitis, and perihepatitis. Infection can also spread through lymphatic or peritoneal route [6].

Fitz-Hugh-Curtis's syndrome is characterized by the onset of sudden and intense pain in the right hypochondrium, which may migrate to the right shoulder and may be accentuated by breathing mimicking then acute abdominal emergencies. This pain could be explained by the appearance of perihepatic inflammation and the formation of adhesions between the Glisson capsule and the anterior abdominal wall. It may be accompanied by lower abdominal, dorsal, or pelvic pain. Other symptoms may also be experienced such as fever, chills, nausea and vomiting, vaginal discharge, dysuria, etc. [6, 7].

Fitz-Hugh-Curtis's syndrome may mimic a number of other diseases. These include ectopic pregnancy, cholecystitis, viral hepatitis, renal colic, pyelonephritis, pulmonary embolism, and appendicitis [6].

Imaging and laboratory investigations are important in the diagnoses of FHCS. Laparoscopy is the gold standard imaging technique for diagnosing the syndrome then FHCS can be diagnosed directly via visualization of adhesions between the diaphragm and liver or liver and the anterior abdominal wall [5].

Biological tests show leukocytosis in 50% of patients while the liver test is often normal. The micro-immunofluorescence test often helps in the diagnosis while urethral cultures are negative in the majority of cases [7].

Ultrasound imaging which is more accessible in rural settings has limitations in confirming FHCS; it may demonstrate the violin string adhesions between the liver surface and the abdominal wall or widening of the right anterior renal space and inoculation of fluid in the hepatorenal space. Sonography also plays a major role in ruling out important differentials and in assessing the ovaries and tubes for abscesses and other nonspecific signs of PID in the pelvis [5, 8, 9].

Computed tomography findings differ depending on the stage of PID. In the early PID, the results are subtle, such as the presence of fluid in the pouch of Douglas and pelvic fat inflammation. At a later stage, the fallopian tubes fill with fluid and their walls thicken. The ovaries can also become enlarged and have a heterogeneous appearance. The tubo-ovarian abscess represents the advanced stage of PID [10].

Computed tomography scans may show subcapsular fluid collection, thickening of hepatic capsule in the arterial phase, and wedging enhancement of the involved liver parenchyma in more than 50% of patients [7]. The dynamic abdominal CT scan can significantly improve detection of perihepatic enhancements. This is related to increased blood flow to the inflamed liver capsule, which is compatible with laparoscopic results. The capsular inflammation may completely disappear after treatment [3]. Computed tomography scans can also show a hepatomegaly and intraparenchymal reversible dynamic perfusion abnormalities [10].

Infertility is the most common complication of FHCS. Bowel obstruction due to adhesion formation in the peritoneal cavity is less frequent [6].

Treatment consists of antibiotics directed against *N. gonorrhoeae* and *C. trachomatis*. Mechanical lyses of adhesions can be performed surgically if conservative treatment fails. Laparoscopy has both diagnostic and therapeutic benefits and it provides a less invasive therapy than laparotomy. Finally, treatment of all sexual contacts is desirable [3, 7].

CONCLUSION

Severe abdominal pain in the right upper quadrant in a woman of reproductive age should raise suspicion for progressive PID known as the FHCS. Biphasic CT with arterial and portal phases may help ensure adequate medical treatment as well as avoid invasive procedures and to retain fertility.

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Author Contributions

Hind Sahli – 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

Basma Taibi – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, 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

Hind Boukhalit – 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

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Fatima Zahrae Laamrani – 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

Authors declare no conflict of interest.

Data Availability

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

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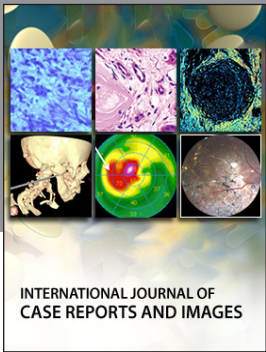
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