Acute Gonococcal Peri-hepatitis (Fitz-Hugh-Curtis Syndrome)

Fitz-Hugh-Curtis Syndrome is an extrapelvic manifestation of PID. It is associated with right upper quadrant pain that likely results from inflammation of the liver capsule and diaphragm.

- Etiology
  - Previously, Neisseria gonorrhoeae was thought to be the main causative agent.
  - However, recent studies have shown that cases of Fitz-Hugh-Curtis Syndrome due to Chlamydia trachomatis infection outnumber those due to N gonorrhoeae infection by almost 5 to 1.
    - The spread of bacteria from the pelvis to the liver capsule likely results from the circulation of abdominal fluid over the right paracolic gutter to the subphrenic space and hepatic surface.
    - However, lymphatic and hematogenous spread have not been excluded, and these probably play a role in the dissemination of the disease
- Fitz-Hugh-Curtis consists of 2 phases, termed acute and chronic.
  - Acute phase
    - Acute onset of excruciating sharp pain over the area of the gallbladder
    - Possible referred pain to right shoulder
    - Pleuritic pain that increases with Valsalva
      - (ie, any maneuver that increases intra-abdominal pressure, eg, cough, sneeze) or movement
    - Occasional nausea, vomiting, hiccups, chills, fever, night sweats, headaches, or general malaise
    - Most often associated with acute salpingitis but symptoms of Fitz-Hugh-Curtis without signs of PID are possible
  - Chronic phase
    - Characterized by persistent right upper quadrant pain or relief of symptoms altogether
- Physical Exam: Without a diagnosis of PID, Fitz-Hugh-Curtis most often is a diagnosis of exclusion.

Lab Studies:

Lab test findings are consistent with those of acute PID. One should obtain

- Cervical cultures for gonorrhea and Chlamydia
- WBC count (usually elevated)
- erythrocyte sedimentation rate

- Because Fitz-Hugh-Curtis Syndrome rarely affects liver parenchyma, LFT results rarely are affected.

It is important to rule out other disease with:

- Amylase or lipase to help exclude pancreatitis
- LFTs to help exclude hepatitis
- Urinalysis or urine culture to help exclude pyelonephritis or kidney stones
- Upright CXRperforated ulcer

Imaging Studies:

Ultrasound

- Case reports exist that indicate visualizing perihepatic adhesions may be possible, especially when fluid is present in the abdominal cavity.
- One study found an increase in the width of anterior extrarenal tissue due to inflammation.
- Ultrasound is mainly important however to help exclude the presence of gallstones.

CT scan

- CT scan findings may help delineate a loculated perihepatic peritoneal collection.
- However, CT is mainly important however to help exclude the presence of other diseases.

Chest radiograph

- The right hemidiaphragm may be elevated.
- Findings help exclude the presence of pneumonia.
- Check for free air to help rule out perforation.

Procedures:

Diagnostic laparoscopy is procedure of choice for diagnosis.

- Most diagnoses are made with after direct visualization of the liver capsule.
- During the acute phase, inflammation of the peritoneum and anterior liver capsule is present and exudate that is gray and flaky or granular appears. The exudate has been described as looking like salt sprinkled on a moist surface.
- During the chronic phase, the classic "violin-string" adhesions of the anterior liver capsule to the anterior abdominal wall or diaphragm are present (see picture at end of this article).

TREATMENT

Antibiotics are the mainstay of therapy.

- Treatment is the same as for PID.
- Patients may be treated in an outpatient setting unless they meet one of following criteria:
    - Positive for human immunodeficiency virus infection
    - Unilateral or bilateral tuboovarian abscess
    - Oral intake not possible due to secondary nausea or vomiting
    - Outpatient treatment has failed
    - Pt is Pregnant

Surgical care consists of performing laparoscopy to make the diagnosis. Relief of symptoms with lysis of adhesions is of questionable benefit.

Antibiotics and pain control agents are the medications of choice. Use the same antibiotics as would be used to treat PID. Pain control may be achieved with NSAIDs or acetaminophen with codeine (Tylenol #3).

- **Outpatient antibiotic regimen #1** -- Includes antibiotics to treat the common causes of PID. This regimen includes both ceftriaxone and doxycycline.

- **Outpatient antibiotic regimen #2** -- Includes antibiotics used to treat the common causes of PID. Regimen includes both ofloxacin and metronidazole (Flagyl)

- **Inpatient antibiotic regimen #1** -- Includes antibiotics used to treat the common causes of PID. This regimen includes both cefotetan and doxycycline.

- **Inpatient antibiotic regimen #2** -- Includes antibiotics to treat the common causes of PID. This regimen includes both clindamycin and gentamicin.

- **Analgesics** -- Pain control is essential to quality patient care. Analgesics ensure patient comfort and have sedating properties, which are beneficial for patients who experience pain.

Prognosis:

- Prognosis is excellent.
- Most cases are asymptomatic (ie, difficult to diagnose clinically) and are diagnosed only at the time of surgery, when FHC syndrome is in the chronic stage.

"Violin-string" adhesions between the liver and the abdominal wall
in patients with chronic Fitz-Hugh-Curtis syndrome.