



Case Study

Chronic Cholecystitis: The Unknown Effect of Gallstone Disease Case Report

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ABSTRACT

Chronic cholecystitis is a prolonged inflammation of the gall bladder. It is characterized by a thickened, fibrotic gall bladder wall and impaired bile flow. Globally, gall stones affect up to 20% of the population, with most remaining asymptomatic. This factor includes age, obesity, rapid weight loss, and certain infections. The preferred treatment is laparoscopic cholecystectomy to prevent recurrence and complications such as gangrene or perforation. In high-risk patients, non-surgical interventions like drainage or endoscopic stone removal may be used. This report also includes a case study of a 43 years old male with chronic cholecystitis and gall stones, highlighting the importance of early intervention, supportive care and awareness of potential treatment side effects.

INTRODUCTION

Chronic cholecystitis is a condition identified by mononuclear inflammatory infiltrate in the gall bladder and wall. According to WHO, it is a chronic condition caused by ongoing inflammation of the gall bladder resulting in mechanical or physiological dysfunction its emptying.

Definition

Chronic cholecystitis almost always results from gall stones and early episodes of acute cholecystitis [even if mild]. Damage ranges from a modest infiltrate of chronic inflammatory cells to a fibrotic, shrunken gall bladder. Widespread calcification due to fibrosis is called porcelain gall bladder. [1]

Epidemiology

Gall stones affect 10-20% of people worldwide at some point in their lives.

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Roughly 80% of them have no symptoms. Every year, about 5,00,000 cholecystectomies are performed in the US due to gall bladder disease. Gallstones are more common as people age. Gallstones affect more than 0.25% of women over 60. Due to increased biliary secretion of cholesterol, obesity raises the risk of gall stones specifically in women. However, patients who fast or lose a significant amount of weight are more likely to develop gall stones as a result of biliary stasis. [3]

Clinical Features

Cholecystitis occurs over a period of years. Most of the time this symptoms appear after a meal that is high in fat. The symptoms include severe abdominal pains that can be sharp or dull and it also include gastric cramping and bloating.

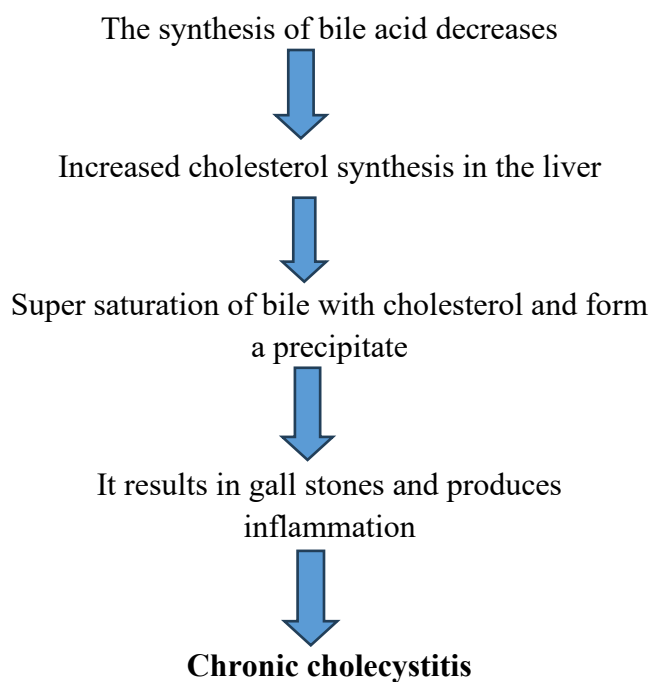
- Fever
- Jaundice
- Light colored stools or loose
- Itching
- Chills
- Nausea
- Vomiting

Complications can include

- Aperture of the gall bladder as a result of infection
- Death of gall bladder tissue [this can result in a split and ultimately a burst of the organ].
- Pancreatitis, an inflammation of the pancreas. [4]

Pathology

The two forms of Chronic Cholecystitis are **Calculous** [occurring in the presence of cholelithiasis], and **Acalculous** [absence of cholelithiasis].



It has been proposed that hydrophobic bile salt cause increased damage from free radicals in lithogenic bile. This is related to decreased mucosal protection brought on by decreased prostaglandin E2 affects in an ongoing inflammatory state. Affected smooth muscle cholecystokinin receptors impair gall bladder contraction, which causes arrest and exacerbates the inflammatory environment caused by lithogenic bile. [5]

Diagnosis

Ultrasonography

It is the most effective method for identifying gallstones in the gallbladder. Additionally, fluid surrounding the gall bladder or thickening of its wall, which are usually signs of acute cholecystitis, can be detected by ultrasonography.

Cholescintigraphy

Diagnosing acute cholecystitis is challenging, this additional imaging test can be helpful. An intravenous injection of a radioactive material

[radionuclide] is used for this test. The radioactivity is detected by a gamma camera and an image is created using a computer. It is therefore possible to track the radionuclide's passage from the liver through the biliary tract.

Liver test

Blood tests are performed to assess the liver's health and potential damage. Unless the bile duct is blocked, the results of this test are frequently normal or only slightly elevated, so the diagnosis cannot be confirmed.

Additional blood test

White blood cells counts are part of it. A high white blood cell count may indicate gall bladder perforation, inflammation or an abscess.

Computed Tomography [CT]

Certain cholecystitis complications, such as pancreatitis or gall bladder tears can be identified by abdominal computed tomography. [6]

Treatment

• Laparoscopic cholecystectomy

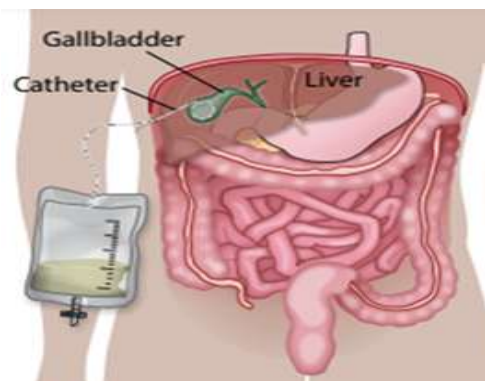
Laparoscopic cholecystectomy is indicated to prevent symptoms recurrence and further biliary complications. This procedure is particularly appropriate for the porcelain gall bladder related with sarcoma.

• Surgery to remove gall bladder

Cholecystectomy

Within 24-48 hours of the onset of symptoms, the gall bladder is typically removed if acute cholecystitis is confirmed and surgical risk is minimal.

- People with diabetes or those who are older are more susceptible to infection from cholecystitis
- There is a suspicion of a complication like abscess, gangrene or gall bladder perforation.
- Individuals suffer from acalculous cholecystitis.
- If surgery is required, it may be postponed for at least six weeks while the attacks go away.
- When a patient has a condition that make surgery too dangerous, such as a cardiac, pulmonary, hepatic or renal condition, surgery is postponed until the condition can be effectively treated.
- To help treat and stop the infection from spreading, the gall bladder may need to be drained if it must be postponed or avoided entirely.
- Another option is to use endoscopic ultrasound to guide the placement of a drainage tube from inside the body.



- Cholecystitis is treated in a hospital right away. Supportive care such as Intravenous fluids is the first step in treatment while digestive system is at rest.
- IV antibiotics: for the purpose of treating or preventing infection.
- The majority of people require intravenous IV pain relief.
- Endoscopic gall stone removal:

Endoscopic retrograde cholangiopancreatography is an additional non-surgical technique that visualize the biliary system by combining an upper endoscopy with x-ray technology. To remove gall stones that have become lodged in bile duct and endoscopist can use tiny instrument. This may help elevate symptoms right away.^[7]

Etiology

Gall bladder inflammation is known as cholecystitis.

- Gall stones which are hard bile particles that can form in the gall bladder and causes swelling and irritation are one of the causes of gall bladder inflammation.
- A Tumor
- Blockage of the bile duct: cholecystitis can result from stones, thickened bile and microscopic particles known as sludge obstructing the bile duct.
- Infection: gall bladder swelling and irritation can be brought on by AIDS and other viral infection.
- Serious illness: the gall bladder's blood supply may be reduced and blood vessels may be damaged. Cholecystitis may be the possible outcome.^[2,8]

CASE DISCUSSION

A 43 years old male patient was admitted in the hepatology department on 3/11/2024 with the chief complaints of epigastric pain and vomiting. Patient has a k/h/o Diabetes mellitus type II, Hypertension, chronic alcoholic and chronic cholecystitis with gall stones. Patient was diagnosed with chronic cholecystitis. Now admitted for supportive care and management.

- On examination, the patient heart rate was 64 bpm [beats/min], blood pressure was 100/90

mmhg, temperature was 98.6 F, SPO2 was 96%@RA and GRBS was 163 mg/dL.

- On 3/11/2024, patient hemoglobin shows 12.9 gm/dL, packed cell volume was 36 vol%, total RBC count was 3.8 mill/cu.mm, MCV was 94 fL, MCH was 34 pg, MCHC was 35 gm/dL, RDW was 15.5%.
- On 4/11/2024, 7,17 mg/dl is total bilirubin, 3.42 mg/dl is direct bilirubin, 3.75 mg/dl is indirect bilirubin, SGPT was 22 U/L, Ammonia shows 199 ug/dL.
- On 24/11/2024, Endoscopy report shows prominent venous columns seen in lower 1/3rd, lax LES. Antral gastric ulcer with gastritis.
- On 4/11/2024, ultrasound scanning of abdomen shows gall bladder wall appear thickened with few calculi likely infective splenomegaly, minimal ascites and enlarged spleen size was less than 140mm.
- Inj. Zofer 4mg/TID
- Inj. Moncef 1gm/OD
- Tab. Telma 40mg/OD
- Inj. Hepamerz 1amp/TID
- Tab. Udiliv 300mg/BD
- Inj. Tramadol 1amp/BD
- Tab. Dytor Plus 5mg/BD.

CONCLUSION

Thus, the main motive of this written report is to create awareness in hospital sector about the side effects of treatment given for chronic cholecystitis.

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