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Professional paper

CHOLECYSTITIS: SYMPTOMS, DIAGNOSIS, AND TREATMENT

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Abstract

Cholecystitis is an inflammation of the gallbladder which is most commonly brought about by gall stones either partially or fully obstructing the cystic duct which may lead to acute or chronic inflammation.
The presentation of patients is usually fever, nausea, and right upper quadrant abdominal pain , and they may also have a positive Murphy's sign during physical examination.
Test results routinely exhibit an increase in white blood cells, which may suggest some liver function tests are abnormal, particularly in cases of biliary obstruction. Abdominal ultrasound is the first line imaging technique and may demonstrate gallstones, thickening of the gallbladder wall, and fluid around the gallbladder. If the ultrasound does not provide adequate results, a functional imaging with HIDA scan may be conducted.
Supportive treatment which consist of IV fluids, antibiotics, and analgesics is the initial component in management.
Definitive treatment is laparoscopic cholecystectomy which must be done between twenty-four to seventy-two hours after the diagnosis. For patients who cannot undergo surgery, cholecystostomy is a temporary measure.
The gallbladder can develop complications such as gangrene and perforation, which makes early diagnosis and treatment critical.

Keywords: Cholecystitis, laparoscopic cholecystectomy, ultrasound, cystic duct obstruction, gallstones, antibiotics.

1. Introduction

Cholecystitis is an inflammation of the gallbladder, and is typically due to obstruction of the cystic duct with gallstones. It is a frequent gastro-intestinal disorder with complications that can require surgery. Symptoms of the disorder may be an acute or a chronic inflammation. Chronic cholecystitis, however, generally occurs secondary to recurrent episodes of acute cholecystitis which result in prolonged gallbladder infliction. The latter are usually consequences of the former and sometimes of little value, although early recognition and proper management are crucial to avoid more sequelae like gallbladder perforation, gangrene or sepsis.

Etiology and Pathophysiology

The most frequent etiology of cholecystitis is the presence of gallstones (cholelithiasis) that obstruct the cystic duct and lead to bile stasis. This stagnation results in a build-up in pressure within the gallbladder leading to inflammation (cholecystitis) and sometimes infection (cholecystitis) with infected bile. Acalculous cholecystitis is a less common form of the disease where the gallbladder becomes inflamed without the presence of stones. It is usually found in the critical ill patients, for example, severe trauma, burns, and prolonged fasting.
Cholecystitis is a pathological condition in which the wall of the gallbladder becomes swollen and the inflammation can induce ischemia and if left untreated can result to necrosis.

Clinical Presentation

The clinical picture of cholecystitis is a sum of GI and systemic disturbance(4,5). Sudden onset right upper quadrant abdominal pain that can be referred to the back or shoulder is the most common presenting symptom in the majority of patients. Pain is commonly aggravated by deep breathing and examination of the affected area. Fever, sickness, vomiting and lack of appetite are often seen. Jaundice is occasionally present, particularly when there is obstruction of the biliary ducts. Sign of Murphy: where the patient ceases to take in a deep breath due to localized pain in the RUQ when examined by a practitioner's hand in the same area; this signs is a classic pointer to cholecystitis.

Diagnostic Methods

Clinical examination, laboratory findings and imaging studies are used to diagnose cholecystitis. Leukocytosis with the white cell count and abnormal liver function tests with elevated alkaline phosphatase, AST, and ALT (in particular, when there is biliary duct obstruction) are commonly observed on laboratory studies. Imaging is an essential tool in establishing the diagnosis. An abdominal ultrasound is the first go-to procedure usually done and is able to diagnose pericholecystic fluid, gallstones, as well as thickening of the gall bladder wall. If an ultrasound is still inconclusive after all, a HIDA scan may assess for any gallbladder function problems alongside any obstructions or dysfunctions.

Management and Treatment

Cholecystitis is managed by supportive and definitive therapy. Initial steps include intravenous fluid, pain medication for analgesia, and broad spectrum antibiotics to cover bacterial infections.
The final treatment for cholecystitis is a cholecystectomy, which is typically accomplished laparoscopically. There is a potential risk for the bowel when the patient is not operated in 24 of 72h due to the risk of perforation, gangrene or abscess. Percutaneous cholecystectomy can be used as a temporary approach to decompress the gallbladder and symptoms in patients who are too high-risk for surgery because of comorbidities.

Complications

Untreated or delayed treated cholecystitis can result in complications ranging from gallbladder gangrene, perforation, and abscess to sepsis. Chronic cholecystitis - repeated attacks of acute inflammation as well as chronic irritation lead to thickening of the gallbladder wall and decreased capacity to concentrate bile. This may result in a diminished, non-functional gallbladder (a "shrunken gallbladder") that would need to be removed surgically. Other complications are biliary peritonitis and gallstone pancreatitis.

Discussion

Gallstone disease is now more effectively treated, thanks to advanced imaging and minimally invasive surgical procedures. Acute cholecystitis is optimally treated with laparoscopic cholecystectomy due to the advantages of early recovery, less pain, and earlier return to normal activities. Treatment within 72 hours after diagnosing the illness is essential to prevent life threatening conditions. In certain circumstances, conservative management of the edema with antibiotics and drainage for those patients unable to have their surgery immediately may bring temporary relief. The prescription of antibiotics must consider the most frequent bacteria like E. coli, Klebsiella, and Enterococcus.

Conclusion

Cholecystitis is a frequent condition which can be severe and hence should be identified and treated promptly. With the development of imaging techniques and minimally invasive surgery, the prognosis of patients with cholecystitis has greatly improved. Laparoscopic cholecystectomy is the gold standard management and has superior outcomes. Supportive care with antibiotics and drainage may provide only temporary relief to the patient if surgery cannot be immediately performed.

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