ACUTE CHOLECYSTITIS

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Investigation for Acute Cholecystitis
Treatment for Acute Cholecystitis

Learning Objectives

To describe of Acute Cholecystitis
To understand diagnostic features of Acute Cholecystitis
To explain management of Acute Cholecystitis

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Acute cholecystitis is the acute inflammation of the gall bladder and it presents as an emergency with upper abdominal pain, fever and vomiting. The onset of the symptoms may be sudden or gradual.

**CLINICAL FEATURES**

**PAIN**
It is severe, agonizing and of sudden onset lasting for more than 12hrs. It is located in the right hypochondrium and radiates to the back in between the shoulder blades. The pain may be felt in the epigastrium. It may be continuous and progressive with the progress in the disease process. The pain may be colicky in nature and it may be worse in post-prandial period in obstructive cholecystitis.

Acute cholecystitis is obstructive in nature in 95% of cases due to impaction of stone in the Hartmann's pouch or cystic duct. The pain may occur during night always at about same time.

**NAUSEA AND VOMITING**
These symptoms are present earlier during the attack and continue throughout the illness. The vomiting makes the pain even worse. It is usually because of pylorospasm.

**PYREXIA**
It is almost always present. Sometimes 38°C degrees centigrade or even higher degrees are associated with rigors. This happens specially in fulminating cases.

**JAUNDICE**
It may be present due to inflammation of the biliary passages. Cholangitis is associated in 20-25% of the patients. Obstructive jaundice may also be associated with acute cholecystitis. Bile duct stones are present in 23% of the patients with acute cholecystitis.

**ABDOMINAL DISTENSION**
Mild abdominal distension is seen in severe cases of acute cholecystitis.

**TENDERNESS AND RIGIDITY**
It is present in the right hypochondrium.

**MURPHY'S SIGN**
It is inspiratory arrest during palpation of the right subcostal region due to pain. It is positive in acute cholecystitis.

**BOAS' SIGN**
It is the presence of area of hyperaesthesia below the tip of right scapula and opposite T₁ and L₁ vertebrae in the posterior axillary line.
MASS UPPER ABDOMEN
A tender palpable mass of variable size is present in the right hypochondrium and subcostal area. It is present in 25% of the patients. It indicates following complications of acute cholecystitis:
- Mass formation due to omental adhesions along inflamed gall bladder.
- Empyema of gall bladder.
- Perforation and local abscess formation.
- Carcinoma gall bladder associated with acute inflammation.

BLOOD EXAMINATION
- Haemoglobin estimation
- Total leucocyte count (leucocytosis)
- Differential leucocyte count (polymorphs are increased)
- Sedimentation rate (raised)
- Liver function tests done to rule out associated Hepatic pathology and in case of jaundice to define the type of jaundice
- Screening for Hepatitis B & C
- Clotting profile is advisable in cases of jaundice
- Urea and electrolytes: may be disturbed due to vomiting and dehydration.

ULTRASOUND SCAN
The diagnosis is usually confirmed by ultrasonography. The diagnostic characteristics are:
- Thick walled (>3mm) gall bladder
- Distended gall bladder with/without stones in cases of acalculous cholecystitis
- Pericholecystic fluid
- Murphy’s sign elicited by ultrasound probe.

RADIOLOGICAL EXAMINATION
X-ray of the chest and abdomen (plain). These help in the diagnosis of radio opaque gall stones and chest lesions (pneumonia and pleural effusion).
Acute Cholecystitis

Hospital admission
Supportive care
Antibiotics

Determine
Surgical risk

Low risk (ASA I,II)

Clinical improvement

Delayed Cholecystectomy after 6 weeks

Clinical deterioration

Early Cholecystectomy with in 24 hours

High risk (ASA III-V)

Clinical improvement

Emergency Cholecystectomy

Clinical deterioration

Discharge

Percutaneous Cholecystostomy

Delayed Cholecystectomy
effusion). Oral cholecystogram is not performed during acute attack of cholecystitis. In fact this investigation is no more performed for any indication.

**ULTRASOUND SCAN**

It is the best investigation during acute cholecystitis as it helps to confirm the diagnosis immediately and it is not invasive at all.

**DIFFERENTIAL DIAGNOSIS**

This condition is to be differentiated from all causes of acute abdomen and certain chest lesions such as:

- Acute appendicitis. (specially high and retrocaecal)
- Perforated duodenal ulcer
- Acute pancreatitis.
- Acute pyelonephritis on right side.
- Acute coronary thrombosis (Inferior wall ischemia)
- Right basal pneumonia.

**TREATMENT**

Acute cholecystitis is a surgical emergency and requires treatment which is initially conservative and followed by definitive surgical treatment.

**CONSERVATIVE**

Most patients respond to conservative treatment. More than 90 % of patients get satisfactory relief from acute attack of cholecystitis with the following conservative regimen:

- Nil by mouth and NG aspiration
- Fluid and Electrolyte replacement
**Parenteral Analgesia**

- Parenteral Analgesia
- Parenteral Antibiotic

**NIL BY MOUTH AND NG ASPIRATION**

Rest to the gall bladder and biliary passages is provided by stopping oral intake. It is further offered to upper gastrointestinal track by nasogastric aspiration.

**FLUIDS AND ELECTROLYTES**

Fluids and electrolytes are given intravenously or in less severe cases, oral fluids may be permitted.

**PARENTERAL ANALGESICS:**

Parenteral analgesia is given to make the patients pain free. **NSAIDS** in mild and moderate cases. Narcotic analgesia is recommended in severe pain.

**ANTIBIOTICS**

Quinolones, penicillins and appropriate antibiotics (cephalosporins) to cover gram negative gut organism, are used parenterally or orally. Diabetics are prone to gangrenous cholecystitis. Anaerobic cover should be provided to them (e.g. metronidazole).

**SURGICAL**

Conservative management is followed by definitive surgical removal of gall bladder. It can be either laparoscopic or open depending upon the choice of surgeon and facilities available. The timing of surgery is of crucial importance.

**EARLY CHOLECYSTECTOMY**

This is removal of gall bladder within 24 to 48 hours of acute episode. It is the preferred timing for surgery in patients who have responded to conservative measures.

**DELAYED CHOLECYSTECTOMY**

Six to twelve week after the relief of acute episode, delayed cholecystectomy is performed.

**URGENT CHOLECYSTECTOMY**

This is an emergency procedure indicated in following conditions:
- Failed response to conservative measures
- Generalized peritonitis
- Diabetic patients

Cholecystectomy can be performed through open surgery or laparoscopic surgery depending upon expertise available. If signs of peritonitis develop or the patient fails to get relief after conservative management.
Cholecystectomy is considered as early as possible.

**COMPLICATIONS**

- Empyema of the gall bladder.
- Gangrene of the gall bladder.
- Gas gangrene.
- Local abscess formation.
- Perforation and peritonitis.
- Internal fistula formation.
- Chronic cholecystitis.

**REFERENCES**


