

## Management of acute cholecystitis

### Cholecystitis

Chronic and acute calculous cholecystitis are part of the same spectrum of disease and are related to inflammation within the gall bladder secondary to obstruction of the cystic duct by stones. With stones in a gall bladder it appears that there is always some degree of inflammatory change.

### Clinical features

- ❖ The patient has specific episodes of right subcostal pain radiating to the back and to the shoulder. Occasionally the pain starts on the left subcostal side or even in the epigastrium, but at its most severe it is invariably on the right side. Pain may radiate to the chest. The pain is usually severe and may last for minutes or even several hours. Frequently, the pain starts during the night and wakes the patient. Minor episodes of the same discomfort may occur intermittently during the day.
- ❖ Dyspeptic symptoms may coexist and be worse after such an attack.
- ❖ As the pain resolves the patient improves and is able to eat and drink again.
- ❖ It is of interest that the patient may have several episodes of this nature over a period of a few weeks and then no more trouble for some months.
- ❖ If the pain does not resolve the patient will become more systemically unwell as infection supervenes. This is associated with a continuous pain, nausea, vomiting and pyrexia. On examination the patient will be tender in the right subcostal area and may develop guarding, even rigidity, and later a mass may be palpable as the omentum walls off an inflamed gall bladder.
- ❖ Fortunately, this process is limited by the stone slipping back into the body of the gall bladder and the contents of the gall bladder escaping by way of the cystic duct. This achieves adequate drainage of the gall bladder and enables the inflammation to resolve.
- ❖ If resolution does not occur the gall bladder may perforate with the development of localised peritonitis or an abscess may form; the abscess may then perforate into the peritoneal cavity with a septic peritonitis — this is uncommon, however, because the gall bladder is usually localised by omentum around the perforation.

### Diagnosis

The diagnosis depend on the clinical presentation and the examination supported by ultrasound

### Treatment

Conservative treatment followed by cholecystectomy.

In 90 per cent of cases, the symptoms of acute cholecystitis subside with conservative measures.

Nonoperative treatment is based on four principles:

- ✚ The treatments start with admitting the patient to the hospital. The patients kept nil by mouth, given intravenous fluid, analgesic & antibiotics.
- ✚ Nasogastric aspiration and intravenous fluid administration;
- ✚ Administration of analgesics;

- ✚ Administration of antibiotics —A broad-spectrum antibiotic effective against Gram-negative aerobes is most appropriate (e.g. cephazolin, cefuroxime or gentamycin);

The antibiotics given in acute cholecystitis should cover gram negative aerobes & anaerobes as for e.g. combination of second or third generation cephalosporin with metronidazol. If allergic to cephalosporin, give aminoglycoside, with metronidazol.

Although the inflammation in acute cholecystitis can be sterile in some patients, 1/2 of cases have positive culture from the gall bladder bile.

It is difficult to know who will secondarily be infected; therefore antibiotics become part of the management.

The patient may respond to medical treatment (which is mostly occur) or may not respond to medical treatment (20% of cases).

The response to conservative treatment is evidenced by

- 1) Returning back of the temperature & pulse rate to normal.
- 2) Vomiting stop
- 3) Abdominal pain & tenderness decrease or disappear
- 4) Generally the patient is well.

When these above findings present, the nasogastric tube removed & oral fluids followed by fat free diets are given.

Then the patient undergoes cholecystectomy which is either early or late:

Early cholecystectomy performed within 2-3 days of illness (onset of symptoms).

Delayed cholecystectomy performed within 6-8 weeks.

Early cholecystectomy should be recommended as it offers the patient a definitive solution in one hospital admission, quicker recovery & earlier return to work.

Laparoscopic cholecystectomy is the procedure of choice for acute cholecystitis. The conversion rate into open surgery is 10-15% in this setting.

If the patient present late (after 5 days of illness), or is for some reason unfit for surgery, they are treated conservatively, with the laparoscopic cholecystectomy scheduled for  $\cong 2$  months later.

$\cong 20\%$  of patients with acute cholecystitis fail to respond to initial conservative treatment (pain & tenderness increase, still tachycardia & feverish & the patients is unwell plus ultrasound findings of empyema gallbladder), in such patients the conservative treatment should be abandoned and intervention is require.

In such condition, laparoscopic cholecystectomy could be attempted but the conversion rate is high & some prefer to go directly to open surgery.

If the patient is severely ill or is unfit for surgery, percutaneous cholecystostomy or open cholecystostomy under local anesthesia can be done.

Failure to improve after cholecystostomy is usually due to gangrene of the gall bladder or perforation. For these patients, surgery is unavoidable.

For those who respond after cholecystostomy, the tube can be removed once cholangiography through it shows patent cystic duct. Cholecystectomy may be scheduled in the near future.

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