Treatment of Asymptomatic Gallstones

HG Desai*, B Pandit**

The prevalence of gallstone in adult population is about 4% and 10% in India and Western countries respectively.1,2 The prevalence increases with age: at the age of 65, 30% of women have gallstone and at age 80, 60% of both women and men have gallstones.3 Women (during the fertile period), have three times the prevalence of gallstone than in men.

At least 85% of gallstones are cholesterol gallstones. Pigment stones may be either black or brown. Black stones occur in haemolytic anaemia or cirrhosis of liver while brown stones occur with biliary tract infection with liver flukes (Clonorchis sinensis).2

The management of asymptomatic gallstone has achieved great importance after the advent of “Lapchole” with several obvious advantages: less pain, small scars, early discharge and return to work, minimal use of non-steroidal antiinflammatory drug (NSAID) and lower risk of adhesions in post-operative period. Since a day care surgery, offered by some laparoscopic surgeons to complete their learning curve, is likely to be accepted by most patients (due to inadequate information), the increased risk to asymptomatic gallstone patients from surgeons, is obvious!4

Despite numerous obvious advantages of lap-chole, surgical intervention is not recommended for all patients with gallstone because of mortality (0.1 - 1%), morbidity (10%: bile duct injury etc), chronic diarrhoea (1 - 2%), high cost and chiefly because vast majority (80%) of gallstone patients remain asymptomatic for several decades, till their death from other causes.

The treatment of gallstone is discussed under five headings: (1) Asymptomatic gallstone (2) Asymptomatic gallstone with abdominal symptoms due to other causes (3) Asymptomatic gallstone with asymptomatic large polyp or carcinoma gall bladder (detected on routine ultrasonography) (4) Asymptomatic small gallstones (less than 0.5 cm), with past history of idiopathic pancreatitis (5) Symptomatic gallstones.

In this article, the discussion is restricted to management of asymptomatic gallstone.1-3 Whether any (medical or surgical) therapy, is desirable for asymptomatic gallstone, is discussed.

(I) Asymptomatic gallstone and the risk of gallbladder carcinoma

Since 80% of gallbladder carcinoma patients show presence of gallstone, gallstone is definitely a precancerous condition.5 The important questions to be answered are (i) how greater is the risk compared to control population? and (ii) when is the risk?

The development of carcinoma was five of 2583 (0.2%) and one of 499 gallstone patients over a follow up of 25 years.6 Hence the risk of carcinoma is insignificantly high and is over a few decades. The risk of carcinoma is higher in patients with gallstone greater than 3 cm in diameter and in women than in men.7,8 Furthermore, the risk of carcinoma varies in different population (high in American female than in Black male or in North Indian population), because of hereditary and/or environmental differences.7

In short, the risk of carcinoma is after a few decades while the risk of operative mortality (though small but definite) is immediate. The operative risk of 0.1-1% appears low but for that particular patient is 100%. Furthermore, the lowest mortality, reported by the best surgeon in the world, cannot be achieved by majority of average surgeons.

(II) Asymptomatic gallstone: symptoms and/or complications

The risk of biliary pain was 10%, 15%, 18% at 5, 10 and 20 years.9 The risk of biliary pain is about 2% and 1% per annum in initial 10 years and later 10 years respectively.10 The risk of pain is 30%, 20%, 15% in patients with gallstone diagnosed at age of 30, 50, 70 years respectively. To conclude, the vast majority of gallstones (80%) do not cause any symptoms over few decades.

More than 90% of patients will have symptoms before any complications (acute cholecystitis, obstructive jaundice, acute pancreatitis) occur. The risk of complication was 3% at 10 years. The individual with gallstone should be instructed to consult a doctor, as soon as any upper abdominal symptoms occur, to prevent complications rather than offered operation from fear of complications.

(III) Special Consideration

1. Non-functioning gallbladder on oral cholecystography is no indication for surgical intervention, despite possible increased risk of developing symptoms.

2. Diabetes mellitus: Earlier, patients with asymptomatic gallstone with diabetes mellitus, were recommended for surgery.
surgery because of increased risk of septic complications and higher incidence of emphysematous cholecystitis; this increased risk of septic complication has not been confirmed in later studies.11-13

3. Porcelain gallbladder is diagnosed on plain x-ray abdomen because calcium salt is deposited in inflamed gallbladder wall. All patients with porcelain gallbladder are advised surgery because of possibility of associated carcinoma or a much higher chance of developing gallbladder carcinoma.

4. Pigment gallstone in patients with haemolytic anaemia (e.g. hereditary spherocytosis) who require splenectomy are also advised cholecystectomy at the same time.

To conclude, gallstones do not spontaneously disappear, except when formed under special circumstances, such as following rapid weight loss or during pregnancy. Despite persistence of gallstone for lifetime, asymptomatic gallstone individuals are not recommended either oral dissolution therapy with ursodeoxycholic acid (UDCA)14 or mechanical disruption with extra-corporeal shock wave lithotropsy (ESWL).15 as less than 15% of patients are suitable and the success rate is low with high recurrence rate.

Surgical intervention is not routinely recommended to a patient with asymptomatic gallstone except (i) with porcelain gallbladder (25% are associated with cancer) (ii) with large stone (>3cm) or polyp (>1cm) or gallbladder carcinoma (detected on ultrasonography) (iii) or a patient with pigment gallstone who requires splenectomy for haemolytic anaemia (iv) or a patient in whom laparoscopic surgery is indicated for other intrabdominal lesion (e.g. appendicitis) (v) or a patient who will not have adequate medical facilities for weeks (sailors on ship or Everest mountaineers).

REFERENCES


Announcement

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Contact : 53, Creek Row, Kolkata 700014.
Ph. : 033 22363391, Fax : 033 22218930, E-mail : apiwb@ca13.vsnl.net.in

Sd/-
S Ganguly
Hon. Secretary