Editorial

TREATMENT OF GALLSTONES - WHAT IS THE RIGHT CHOICE

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The choices for elective therapy of gallstones have expanded in the last several decades. Although the management of silent gallstones remains controversial, the risk of developing symptoms or complications requiring surgery is quite small (in the range of 1 to 2 percent per year) in most asymptomatic gallstone patients. In symptomatic gallstone patients cholecystectomy remains the treatment of choice and this includes both traditional open and laparoscopic approaches. However, in patients who are either reluctant to undergo surgery or who are at high surgical risk various forms of medical therapy for gallstones exist.

Cholecystectomy is ideal for patients who are willing for surgery. This procedure results in a permanent cure for gallstones with no chance of recurrence (in the gall bladder) and requires no long term follow up or medication [1].

The options available for surgical management of gallstones are:

- a) Conventional cholecystectomy
- b) Laparoscopic cholecystectomy
- c) Mini-laparotomy with cholecystectomy

Conventional cholecystectomy is done in almost all centres universally for gallstone disease, be it a secondary health care centre or a referral health care centre of excellence. The main disadvantages of this is that it involves a longer hospital stay, a longer duration of post operative recovery and greater chances of incisional hernias and wound infection.

Laparoscopic cholecystectomy (LC) has become the accepted gold standard for operative management of gallstone disease world wide. It is a minimal access approach for the removal of the gall bladder together with its stones. Because of a markedly shortened hospital stay as well as decreased cost and a mortality rate

of less than 1 percent, it is the procedure of choice for most patients referred for elective cholecystectomy, in only 4 to 5 percent of patients are surgeons compelled to convert to open cholecystectomy. From several studies involving over 4000 patients undergoing laparoscopic cholecystectomy (LC) the following key points emerge: (1) complications develop in about 4 percent of patients (2) conversion to open cholecystectomy occurs in 4-5 percent (3) the death rate is remarkably low (i.e. percent), and (4) bile duct injuries are unusual (i.e. 4 percent). To minimise the last mentioned, intraoperative cholangiogram is now considered essential for a safe LC. LC requires a laparoscope and other accessories, a skilled hand deft at using the instrument and a near normal biliary drainage apparatus to make the procedure successful [2].

Minilaparotomy cholecystectomy (MC):-In view of the logistics involved in an LC, the alternative option of minilaparotomy cholecystectomy is being preferred in developing countries, especially in secondary level health centres where the laparoscope may not be available nor will the luxury of a GI surgeon. Minilap cholecystectomy decreases the operating time and vis-a-vis an open cholecystectomy, has the advantage of dealing with cholelithiasis or choledocholithiasis with a distorted biliary tree in a safe and conventional way. Bile duct injuries and difficulty in manipulation does not arise as this is an open procedure [3].

Non surgical or medical therapy for cholelithiasis are mainly for patients on whom surgery is contraindicated or in those patients with asymptomatic gallstones who are reluctant to undergo surgery. Options available are:-

- a) Bile salt therapy
- b) Contact dissolution therapy
- c) Extracorporeal shock wave therapy

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d) Cholecystoscopic evacuation

Bile salt therapy i.e. ursodeoxycholic acid (UDCA) and chenodeoxycholic acid (CDCA) decrease HMG-CoA reductase activity which in turn decreases hepatic cholesterol synthesis. It also causes dispersion of cholesterol and retards cholesterol crystal nucleation. Simvastatin, an HMG-CoA reductase inhibitor has also been tried in oral dissolution of gallstones by virtue of inhibiting cholesterol synthesis. The disadvantages of bile salt therapy or using Simvastatin is that there is recurrence after 5 years in about 50% of cases. This type of therapy is suitable only for small, cholesterol, noncalcified stones in a functioning gall bladder. Recurrence rate is high thus requiring prolonged costly therapy. Only 10% of all patients with gallstones are suitable for this type of therapy [4].

Contact dissolution therapy: Infusion of a chemical agent directly into the gall bladder or bile ducts in an attempt to dissolve gallstones is known as contact dissolution therapy. Monooctanoin and methyl tert-butyl ether (MTBE) are two compounds being used as organic solvents, mainly for cholesterol gall stones. MTBE is infused and aspirated 4-6 times/min with progress assessed every 3-4 hours by imaging. Both these compounds have been tried with fair amount of success abroad but are still to make inroads to India. The major disadvantage of MTBE is the need to place a transhepatic catheter in the gall bladder [5].

Extra corporeal shock wave lithotripsy (ESWL): ESWL for the treatment of gallstones followed its successful application for kidney stones. Fragmentation of gallstones into small particles can aid in overcoming problems of big stones by increasing the surface area/volume ratio and disrupting localised areas of calcium salts. Combination of ESWL with UDCA is a more effective mode of treatment of gallstone disease. Again problem of recurrence and prolonged costly therapy is the limiting factor [6].

Cholecystoscopic evacuation or minimally invasive surgery:- Percutaneous cholecystolithotomy with a modified cholecystoscope for evacuation of gallstones

has been used in patients unsuitable for surgery or those in whom lithotripsy or oral dissolution has failed [7].

To conclude, gallstone disease has varied therapeutic options ranging from surgery, minimally invasive surgery to nonsurgical treatment in the form of drugs and lithotripsy. In a developing country like ours where cost effectiveness rather than idealism is a strong decider of viable option, mini-lap cholecystectomy happens to be the right choice. In this context the article published in this issue of journal by Chaturvedi et al [8] is timely. If these findings are confirmed by further controlled studies, mini-lap cholecystectomy may become a poor man's laparoscopic cholecystectomy.

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