SHORT REPORTS

Endoscopic Sphincterotomy without Cholecystectomy for Common Bile Duct Stone

B KRISHNA RAU, S RAJAGOPAL, V ANATHAPADMANABHAN, V MEGHANATHAN
Department of Gastroenterology, Lady Willington Nursing Home, Madras 600 006

Abstract
Endoscopic sphincterotomy was performed on 33 patients with common bile duct (CBD) stones, who had had no previous biliary surgery. Good biliary drainage was achieved in 29 patients. Of these, 26 patients were cleared of the stones, while in three patients the CBD could not be cleared due to large stone size. These patients and the four patients who had inadequate sphincterotomy underwent subsequent surgery. Two non-operated patients required interval cholecystectomy during follow-up. One patient was lost for follow-up. The others have remained symptom free. Endoscopic sphincterotomy to clear the CBD of stones is an alternative to surgery in the elderly, and in high risk patients with gall bladder in situ.

Key words: Endoscopic sphincterotomy, gallstones, common bile duct stones, gall bladder in situ.

Introduction
Endoscopic sphincterotomy (ES) is now the treatment of choice for post-cholecystectomy retained or recurrent common bile duct (CBD) stones. The role of ES in patients with gall bladder in situ has been debated. Recent favourable reports in the aged, surgically poor risk patients seem to indicate the acceptability of this form of treatment. We report our experience in a high risk group treated by ES alone in the past five years.

Material and Methods
During the period from June 1981 to February 1987, 33 patients who presented with complications of CBD stones were assessed to be in the high risk group. Thirty-one patients had severe hypertension, poorly controlled diabetes mellitus, and ischaemic heart disease, either in combination or singly as a risk factor. Advanced age, early hepatic failure and severity of jaundice were also considered in assessing the patient. All patients were referred by experienced surgeons, who considered the patient not fit for exploration. Two patients had pulmonary disorders and were considered unfit for general anaesthesia.

There were 23 men and 10 women with an average age of 50–9 years (range 40–82). They presented with jaundice (23), biliary colic (9), pancreatitis (1) and cholecystitis (1). All patients underwent clinical, biochemical, sonographic and radiological assessment. Endoscopic retrograde cholangiogram (ERC) was done in all patients to confirm the diagnosis. Gall bladder function was not assessed routinely before or after the procedure.

ES was undertaken under surface anaesthesia with hyoscine-N-butylbromide as duodenal relaxant. Olympus GIF type J4 endoscope and Chassen type papillotome were used. The papillotome was positioned across the ampulla into the CBD and its position confirmed radiologically. Sphincterotomy incisions varying from 8 mm to 15 mm length were taken using short bursts of mixed current. A Dormia basket was introduced and stones retrieved. If basketing was not successful, a nasobiliary drain was instituted for biliary drainage and flushing of the stone. The irrigation fluid was normal saline with gentamicin. Stenting was done to prevent obstruction in cases where stone removal was not possible. Patients were started on parenteral gentamicin and metronidazole following sphincterotomy. The antibiotics were used empirically and changed subsequently if indicated by culture and sensitivity studies of aspirated bile. They were also given a short course (two weeks) of H$_2$ blockers and antacids, in view of the raw wound of sphincterotomy.

Patients were followed up with liver function tests, ultrasonography and repeat ERC, if indicated, till the CBD was cleared of stones.

Results
Investigations including ERC had confirmed the diagnosis of cholecystolithiasis and choledocholithiasis in 25 patients. Seven patients had choledocholithiasis alone. Adequate sphincterotomy was achieved in one or more sittings in 29 patients. In three patients the cut was inadequate. One patient had a large periampullary diverticulum and sphincterotomy was not attempted for fear of perforation. All these failures occurred during the initial period of the study.

Clearance of CBD was achieved in 26 patients. In three patients, despite wide sphincterotomy, the stone could not be retrieved due to stone size being more than 15 mm; even these patients had amelioration of symptoms following sphincterotomy. Clinical and biochemical improvement was seen in all the patients in the short-term follow-up. All patients were discharged from the hospital after a mean period of 2-45 days.
Two patients in the study group underwent interval cholecystectomy, one for recurrent cholecystitis and the other for empyema of the gall bladder. Seven patients (4 with inadequate sphincterotomy and 3 with large stones) underwent surgical treatment following failure of endoscopic sphincterotomy. The remaining patients have been followed-up for a mean period of 26.3 months (range 3 to 62). There have been no deaths related to procedure or to gall stones.

**Discussion**

Surgery in the elderly, high risk individual carries higher mortality and morbidity. The patients in this study were considered to be in the high risk group because of associated systemic diseases. Endoscopic management was successful in clearing the CBD in 75.7% of these patients as against 81.6% achieved by Neeptolemos et al. The gall bladder was not removed routinely.

Surgery may be reserved for patients with continuing illness associated with gall bladder stones. Only two patients had to undergo surgery for continuing symptoms. The incidence of surgery for persisting illness following successful clearance of CBD reported in literature is 6%-10%. During the period of follow-up, there has been no deaths related to the procedure or gall stones. Long-term follow-up in other centres has shown that more patients died from unrelated diseases than from their gall stones. The 1% mortality rate reported with ES compares well with the morbidity and mortality associated with surgery. Thus, ES without cholecystectomy seems to be the treatment of choice in elderly high-risk patients.

**References**