

# Spyglass Cholangioscopy Guided Minimal Invasive Management of Large Bile Duct Stone

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## Case Report

A 65 year old female patient presented with severe upper abdominal pain, vomiting and high grade fever since three days. She also complained of passing high coloured urine. On examination, she looked toxic and was running high grade fever. On clinical examination, she was dehydrated; pulse was 104/ min, BP 90/60 mm Hg. She was immediately admitted and hydrated with lots of crystalloids. She was put on high antibiotics (Piperacillin/Tazobactam, Amikacin and Metronidazole.

Biochemistry revealed total white cell count of 14,000 cmmms, LFT was grossly deranged with total bilirubin of 15 mg/dl with direct component of 8.9 mg/dl, SGOT-310 IU/L, SGPT of 200 IU/L, and alkaline phosphatase of 916.

On abdominal sonography, there was hepatomegaly with grossly dilated IHBR, multiple GB calculi, CBD was dilated and measured 17 mms in size with multiple calculi within, largest measuring 20 mms.

On MRCP, gall bladder revealed changes of chronic cholecystitis with multiple calculi within. The bile duct was dilated with a large calculus measuring 2.2 x 2.0 cms seen in the terminal bile duct with moderate dilation of the biliary tree.

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She was then subjected to ERCP with the intension of ductal clearance. On ERCP, cholangiogram revealed single large floating stone in lower end of CBD with dilated upstream CBD. Wide biliary sphincterotomy was performed, frank pus seen draining from papilla. In view of findings of acute suppurative cholangitis, stone extraction was not attempted at this setting. A temporary 10 Fr stent was placed to decompress the biliary system and rapid resolution of obstructive jaundice.

Post ERCP, the general condition of the patient improved rapidly. The deranged LFT's resolved and normalised to normal values.

After stabilisation of patient for six weeks repeat ERCP was done to extract large stone in the CBD. Fresh cholangiogram revealed a persistent large filling defect within the bile duct occupying the entire lumen of the mid-lower bile duct with no space around. As the mechanical lithotripsy basket could not be negotiated across the stone in spite of repeated attempts it was abandoned.

After discussing all the further options including surgery with the relatives on table decision was taken to do Spyglass cholangioscopy guided Holmium laser lithotripsy.

With ERCP scope in situ in the second part of duodenum, spyglass scope (Boston

Scientific, USA) was introduced through the instrument channel within the bile duct. The impacted stone could nicely be visualised with the spyglass scope. The laser fibre was introduced through the channel of the spyglass scope and the stone was fragmented into multiple pieces measuring 6-8 mm size. Once good pulverisation of the stone was confirmed on cholangiogram, the spyglass cholangioscope was extracted out of the ERCP scope. CRE balloon sphincteroplasty was done of the major papilla till 15 mm so as to extract the stone fragments easily. Stone fragments extracted out with multiple sweeps of basket and balloon. Complete ductal clearance was confirmed on balloon occlusion cholangiogram. A temporary pigtail stent was placed in the bile duct and the patient was referred back for

laparoscopic cholecystectomy.

The present case highlights minimal invasive management of large bile duct stone where conventional endoscopic techniques failed in view of sheer size of the stone. CBD exploration was other available option; however the patient's relatives refused any type of open surgical intervention in their patient.

In summary, cholangioscopy guided laser lithotripsy should be considered in patients having large bile duct stone, stones situated above bile duct strictures, intrahepatic stones, radio-opaque hard bile duct stone, residual cystic duct stones, or patients having Mirizzi syndrome. It can also work as a rescue technique when conventional surgery also fails in view of dense adhesions in the GB fossa or frozen calot's.

### **Intensive weight management can achieve remission in type 2 diabetes**

Almost half the patients in a UK primary care-led weight management programme achieved remission of their type 2 diabetes after a year a study in the *Lancet* has shown.

The intervention group were put on a low calorie total replacement formula diet (825-853 kcal/day) for three to five months and their antihypertensive and diabetes medications were withdrawn. Participants were encouraged to maintain their usual physical activities during total dietary replacement.

The primary outcomes were weight loss of 15 kg or more and remission of diabetes, defined as an HbA<sub>1c</sub> < 6.5% (< 48 mmol/mol), from baseline to month 12.

Diabetes remission was achieved in 68 (46%) of the intervention group, and 6 (4%) of the controls.

The study authors conclude: 'Our findings confirm that type 2 diabetes of up to six years' duration is not necessarily permanent lifelong condition. Weight loss sufficient to achieve remission can be attained in many individuals by use of an evidence-based structured weight management programme delivered in a non-specialist community setting by routine primary care staff.'

These findings fit with existing evidence of the benefits of lifestyle intervention in prediabetes states, and remission of diabetes following bariatric surgery.

**Matthew Lockyer, The Practitioner, April 2018, Vol 262, 5**