

Using SpyGlass System with Holmium Laser to Break up Impacted Stones in Cystic Duct (Mirizzi's Syndrome)

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Patient History and Assessment

The patient was a 24-year-old woman with a history of a laparoscopic cholecystectomy and common bile duct (CBD) stones. In addition, we had noted a common bile duct (CBD) stricture that was originally presumed to be inflammatory. However, when we brought her back after the procedure, the stricture was still persistent.

Today, we are planning to perform another ERCP to remove the previously placed double pigtail plastic stent in the bile duct and insert the SpyGlass System to enable inspection of the duct under direct visualization.

Description of Procedure

After consent, adequate sedation and antibiotics were administered and the ERCP procedure was started. The esophagus, stomach and duodenum were not examined in detail. In the second portion of the duodenum, we noted the ampulla with the previously placed double pigtail stent which was easily snared and retrieved. Then we entered the CBD with the SpyScope™ Catheter and were able to identify an extremely large cystic duct stone that was impinging into and compressing the biliary tree (Mirizzi's Syndrome). **See images 1 and 2.**

At this point, we positioned the SpyScope Catheter and SpyGlass Probe in front of the stone and advanced the holmium laser fiber through the working channel of the SpyScope Catheter. After the stone was sufficiently broken up (**see Image 3**), we removed the SpyScope Catheter and, using a mechanical lithotripsy basket, we were able to remove 85 to 90 percent of the stone. Multiple passes were done with a basket and balloon to clear the biliary tree. At this point, the cystic duct impingement into the bile duct was no longer apparent under fluoroscopy. **See image 4.**



Figure 1
SpyGlass System image
of large stone occluding
cystic duct

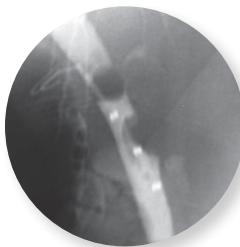


Figure 2
Fluoro image of large
cystic duct stone
impinging into CBD



Figure 3
SpyGlass System image
of stone fragments
in duct after breaking
up large stone with
holmium laser

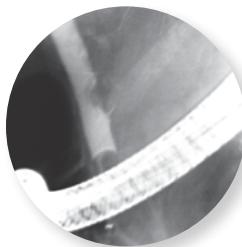


Figure 4
Fluoro image showing
cystic duct no longer
impinging into the CBD
after holmium laser
& removal of
stone fragments



Figure 5
SpyGlass System image
showing stone debris
being swept out of duct

Description of Procedure *(Continued)*

We re-introduced the balloon and swept the biliary tree until we had confirmed clearance of the duct under direct visualization with the SpyScope Catheter.

See image 5. Then, to ensure that there were no obstructions or problems, we placed a new 7fr, 7cm double pigtail stent.

Procedure Outcome and Follow-up

As a result of Mirizzi's Syndrome (enormous impacted cystic duct stump stone), we performed laser lithotripsy with the SpyGlass Direct Visualization System with successful removal of a large stone. The availability of the SpyGlass System and laser lithotripsy allowed us to confirm the source of the CBD obstruction and treat the patient within our health system. We will keep the patient on antibiotics for a few days and then bring her back in four to six weeks to confirm that the duct is clear. If, at that point, we have no further evidence of stones, she will not require any additional follow-up.



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