Patient History

In this case, we treated a 81-year-old female patient with a large common bile duct stone > 2 cm, who had undergone a previous endoscopic retrograde cholangiopancreatography (ERCP), with plastic stent placement (10 Fr by 10 cm), and who returned 3 months later for electrohydraulic lithotripsy.

Procedure

In June 2015, we performed an ERCP and cholangioscopy using the new SpyGlass DS System for electrohydraulic lithotripsy.

After the cholangiography and the removal of the plastic stent, we introduced the SpyScope™ DS over-the-wire that easily allowed direct visualization of the stone (Figure 1, 2). In addition a tissular lesion was detected, proximal to the stone that was not seen during cholangiography (Figure 3).

In our unit, previously cholangioscopy was performed on other patients using the first generation, fiberoptic SpyGlass System. Comparing both systems we observed many important advantages using the new SpyGlass DS System: 1) the total procedure time was considerably reduced to 15 minutes. This is without doubt associated to the easier way the equipment is mounted and the improved quality of the images; 2) the quality of image allowed for better characterization of the biliary tract wall; 3) less water irrigation; and 4) an easier way to introduce the SpyBite™ Biopsy Forceps or other catheters as confocal laser endomicroscopy probe (p-CLE) or electrohydraulic probes when comparing with the older system.

We performed confocal laser endomicroscopy of the lesion (Figure 4) confirming the presence of a cholangiocarcinoma, obtaining directed optical biopsies from the lesion, and then performed lithotripsy for removal the stone.
Conclusion and Patient Outcome

Large stones remain a big challenge during ERCP procedures. In these types of cases, it is not possible to remove the stones using only the standard techniques (sphincterotomy with extraction devices as baskets or retrieval balloons).

By using the SpyGlass DS System, electrohydraulic lithotripsy can be applied directly to the surface of the stone in a simple way, preventing injury to the wall of the common bile duct.

Furthermore, this case illustrates the limitation of cholangiography in identifying small lesions within the lumen of the bile ducts, and how the use of the SpyGlass DS System changed the approach and management of this patient by detecting a small neoplastic lesion due to direct visualization and the ability to perform confocal laser endomicroscopy for optical biopsy as well as target sample tissue during the procedure. After the procedure, the patient was discharged in good condition and was referred to surgery.

Finally, it is important to remark that this new cholangioscope showed an important technological advance, with simplified use, an impact in the time and quality of the procedure, and probably an important impact for patients and medical staff, reducing the use of fluoroscopy as well as water infusion (risk of cholangitis) during the procedures.

Results from case studies are not predictive of results in other cases. Results in other cases may vary.

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