Usefulness of the Single-Operator SpyGlass System for Common Bile Duct Stones Refractory to Conventional Therapeutic ERCP

PATIENT HISTORY

A 66-year-old female patient with substantial cardiopulmonary comorbidity was referred because of a refractory common bile duct stone. She was admitted elsewhere because of cholangitis secondary to a large entrapped common bile duct stone of 24mm. Three previous attempts to remove the stone by means of conventional endoscopic retrograde cholangiopancreatography had failed.

PROCEDURE AND PATIENT OUTCOME

Under general anesthesia, the procedure was repeated. The papilla was found on the edge of a large diverticulum. Cannulation was obtained by means of a sphincterotome and a Hydra Jagwire® Guidewire. Opacification confirmed the presence of a giant obstructive common bile duct stone of 24mm (Figure 1). The sphincterotomy was enlarged as far as anatomically considered safe. Since the length of the sphincterotomy was not considered large enough for stone removal, we next carried out a dilation of the papilla by means of a wire guided Boston Scientific CRE™ Balloon (5.5cm – 12-15mm) in an attempt to perform dilation assisted stone extraction (DASE). The stone, however, could not be mobilized by a stone retrieval balloon or entrapped by dormia basket. We, therefore, switched to the SpyGlass® Direct Visualization System assisted intraductal electrohydraulic lithotripsy (EHL) in order to fragment the stone and clear the common bile duct (CBD).

The SpyScope® Access and Delivery Catheter was introduced up to the lower edge of the stone (Figure 2). Subsequently, the EHL probe was introduced through the working channel of the SpyScope Catheter after which the stone was fragmented by applying pulses through the EHL probe (Figure 3). After fragmentation, the CBD was cleared by means of a dormia basket. Opacification of the CBD after duct clearance is illustrated in Figure 4. The patient underwent the procedure uneventfully and was discharged the day after.

CONCLUSION

This patient case illustrates the usefulness of the SpyGlass System-assisted intraductal lithotripsy for CBD stones refractory to conventional therapeutic ERCP. Moreover, it alleviated surgery in a high-risk patient.