Covered metal stent as a rescue therapy for impacted Dormia basket in the biliary tract

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Dear Editor,

Choledocholithiasis usually requires therapeutic endoscopic retrograde cholangiopancreatography (ERCP) and multiple attempts of stone extraction. Standard treatments include endoscopic sphincterotomy followed by passage of a balloon catheter and/or Dormia basket catheter until complete clearance is observed via cholangiography. However, sometimes, unexpected outcomes are obtained: one of the most discouraging technical adverse events is impacting a retrieval basket around a large bile duct stone (1,2). If stone extraction fails and Dormia basket rests are trapped in the bile duct, rescue therapies, such as Soehendra mechanical lithotripsy, intraductal or extracorporeal lithotripsy, or surgical approach, are needed (3).

In this paper, we reviewed the case of an 84-year-old male who underwent ERCP for cholangitis caused by a large CBD retained stone. During the procedure, the stone was captured by the Dormia basket; however, unfortunately, this rested impacted and fixed in CBD. To ensure biliary drainage, a naso-biliary tube was placed above the trapped basket and a metallic traction wire was passed through the nose.

New ERCP was once performed at our tertiary referral center. Despite multiple but useless attempts even via Soehendra lithotripter, Dormia basket rested trapped in an "hallow" of the distal CBD. Moreover, the small diameter of the pre-papillary CBD did not allow for safe endoscopic large balloon papillary dilation (EPLBD). The Dormia catheter wire was then placed into the gastric lumen, and a fully covered self expandable metal stent (FCSEMS) with a long retrieval string (Niti-S Kaffes type - Taewoong Medical, South Korea) 60×100 mm was placed across the Dormia basket (Figure 1).

Fifteen days later, ERCP was repeated and the FCSEMS was removed. Simultaneously, the Dormia basket was easily retracted outside the ampulla of Vater and the stone, reduced in size, and skipped out in the duodenum. No AEs were recorded.

Endoscopic treatment of difficult choledocholithiasis often represents a challenging situation, even for an expert endoscopist.

Historically, mechanical lithotripsy was the widest used technique in the management of difficult choledocholithiasis; however, it was burdened with complications ranging from 3.6% to 35% (2,3).

Various complications were recorded, including trapped basket surrounding a stone, fracture of basket wires or the main operation wire, malfunction of mechanical lithotriptor crank handle, and ductal injury. Among these, impaction of the Dormia basket was the most common (3).

Rescue therapies include the enlargement of sphincterotomy, EPLBD, extracorporeal, intraductal (laser or electrohydraulic), or mechanical lithotripsy. If these therapies fail, surgery is the last choice to release the trapped Dormia basket and remove biliary stones (1,3).

Nowadays, the temporary use of FCSEMS represents an effective option in the treatment of choledocholitiasis (2). In fact, first Cirefice and more recently Hartery reported an efficacy of approximately 85% of temporary placement of FCSEMS as a key-point in the treatment of patients with difficult biliary stones (4,5). In this scenario, we thought that the use of FCSEMS could be a suitable choice even in the case of a trapped Dormia Basket, thus providing quick biliary drainage, carrying to stone fragmentation or size re-

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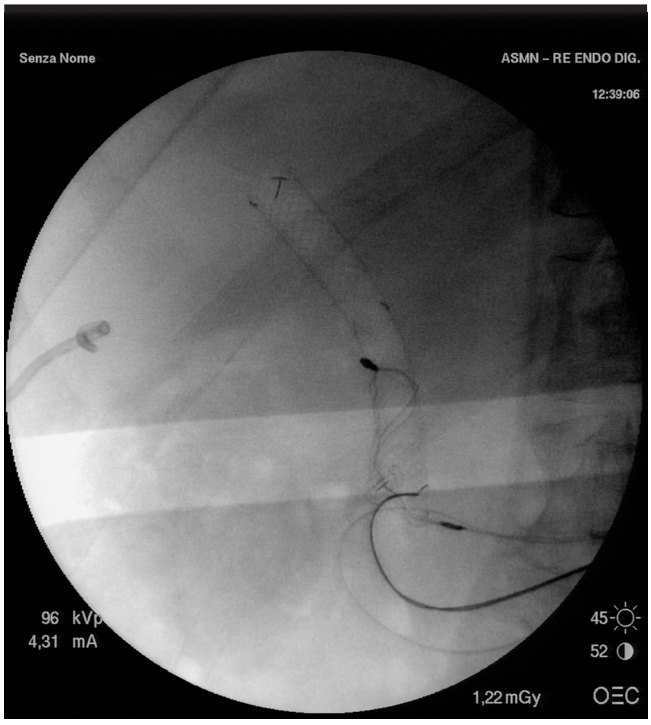

Figure 1. The Dormia catheter wire was then placed into the gastric lumen, and a fully covered self-expandable metal stent (FCSEMS) with a long retrieval string 60×100 mm was placed across the Dormia basket

duction with continuous rubbing between the stone and the metal mesh of the stent. Moreover, FCSEMS placement is relatively easy, inexpensive, and widely available, not precluding any further treatments.

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