VIDEO CASE REPORT

Removal of a lodged pancreatic duct stone using a retrieval snare

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A 63-year-old man with chronic calcific pancreatitis and a history of pancreatic duct (PD) stones was referred for recurrent chronic upper abdominal pain. He had previously undergone extracorporeal shockwave lithotripsy and ERCP with stone removal and stents that were removed a few years prior at outside facilities. CT and EUS showed pancreatic parenchymal chronic pancreatitis changes and recurrent PD stones (Fig. 1).

ERCP was performed for PD stone removal. On pancreatography, the main PD was ectatic and dilated, especially in the head of the pancreas, giving a sac-like appearance, along with dilated side branches and a dominant duct of Santorini. There was a 10-mm oval filling defect consistent with a PD stone in the ectatic dilated portion of the main PD (Fig. 2). Balloon extraction was able to remove only small white stones; however, the 10-mm stone was persistently lodged in the sac-like portion on balloon sweep.

A 1.5-cm retrieval basket was used; however, the basket would not fully open because it would enter a side branch in the head of the pancreas or the narrower upstream duct despite attempted opening in the proximal head of the pancreas. Peroral pancreatoscopy (POP) was then performed in attempt at laser lithotripsy (LL) of the lodged PD stone. LL proved difficult because only a portion of the stone could be visualized on POP, given the acute angle at the sac-like dilated area, and maneuvering the pancreatoscope for complete fragmentation was difficult in this space (Fig. 3).

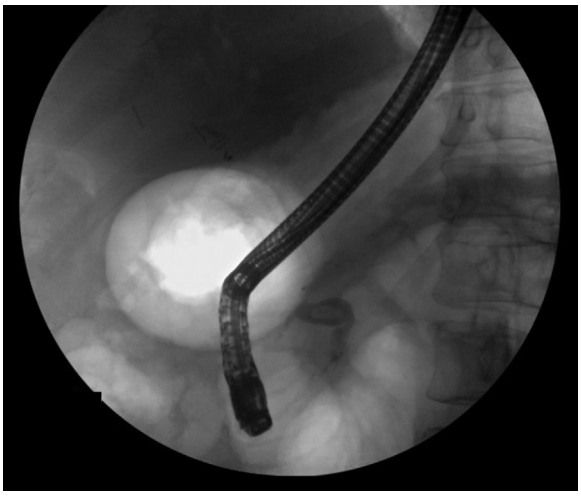

Figure 2. Pancreatic duct stone seen on fluoroscopy in dilated portion of main pancreatic duct.

Figure 1. Pancreatic duct stone with acoustic shadowing on EUS.

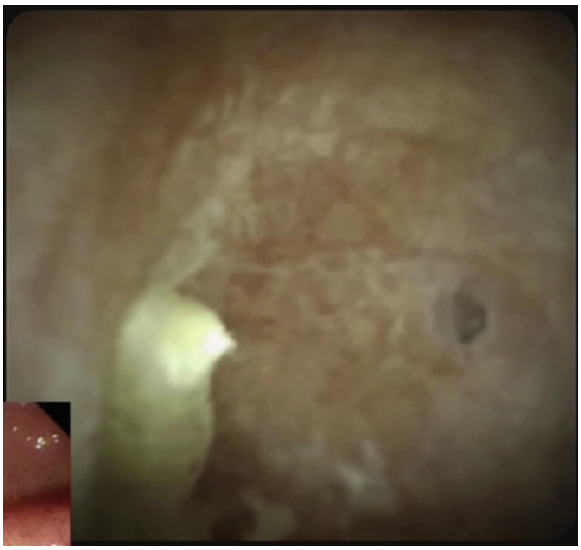

Figure 3. Pancreatoscopy showed lodged pancreatic stone in ectatic pancreatic duct.

Figure 4. Retrieval snare opened in pancreatic duct.

To remove the lodged PD stone, a Spyglass Retrieval snare (9-mm snare × 286-cm catheter length; 1.2-mm minimum required working channel; Boston Scientific, Natick, Mass, USA) was used to retrieve the stone (Fig. 4). To avoid pushing the stone further with the snare, a slight buckling technique of the distal end of the snare against the opposite PD wall was used to maneuver the snare around the stone in a semiblind fashion. The stone was successfully grasped and pulled out along with the pancreatoscope into the duodenal lumen (Fig. 5). The stone was extracted in its entirety (Fig. 6). Repeat POP showed no residual stones throughout the main PD to the distal body of the pancreas (Video 1, available online at www.VideoGIE.org).

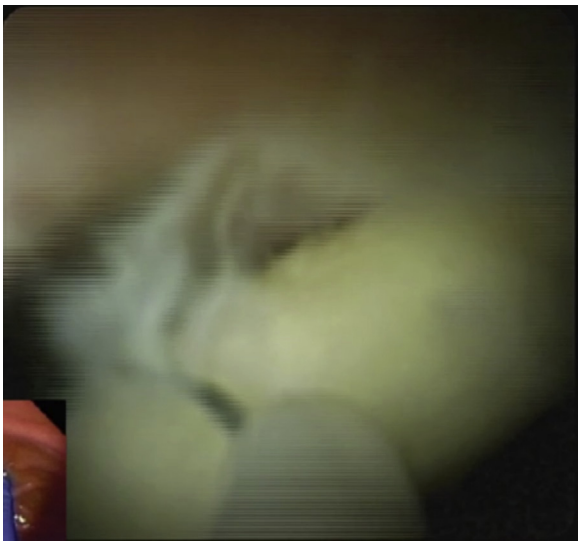

Figure 5. Pancreatic duct stone grasped with retrieval snare.

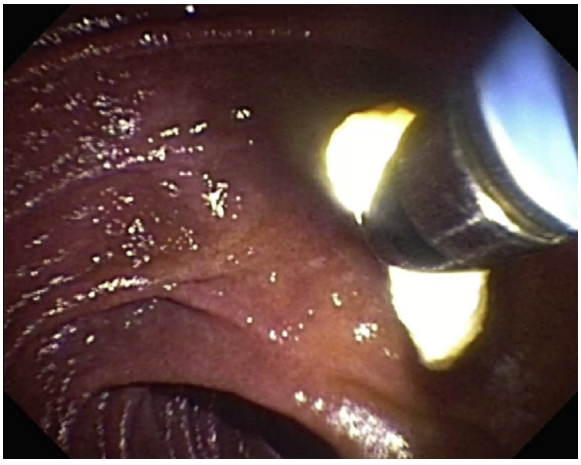

Figure 6. Pancreatic duct stone removed with retrieval snare.

PD stones can be challenging to remove. Several methods with differing effectiveness are available for PD stone removal, including extracorporeal shockwave lithotripsy, ERCP with balloon sweep, mechanical lithotripsy, POP with direct LL, and electrohydraulic lithotripsy.[1,2] The use of a retrieval snare, also known as a Spysnare, has been shown to be useful in retrieving migrated biliary stents.[3,4] This present case shows that a retrieval snare with POP can be successfully used to grasp and remove a lodged PD stone.

DISCLOSURE

Dr Thosani is a consultant for Boston Scientifc, Medtronic, and Pentax America; received royalties from UpToDate; and is a speaker for Abbvie. All other authors disclosed no financial relationships.

Abbreviations: LL, laser lithotripsy; PD, pancreatic duct; POP, peroral pancreatoscopy.

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