ORIGINAL ARTICLE

A new pancreatic guidewire–assisted biliary cannulation technique using double soft-tipped guidewire: wire bridge cannulation

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INTRODUCTION

The double guidewire (GW) technique is a widely accepted approach in clinical practice for challenging biliary cannulations. By inserting a GW into the pancreatic duct, one can anticipate papilla fixation and bile duct straightening within the papilla. However, it has the disadvantage of an economic burden due to the use of 2 GWs.

A new double soft-tipped GW that has 2 soft angulated tips with hydrophilic coating on both ends has been developed recently (RevoWave DualMaster, 0.025 inches, 450 cm long; Piolax Medical Devices, Inc, Yokohama, Japan). This GW enables simultaneous cannulation of both the pancreatic and bile ducts without the need for a secondary GW. We suggest a new pancreatic GW method: wire bridge cannulation.

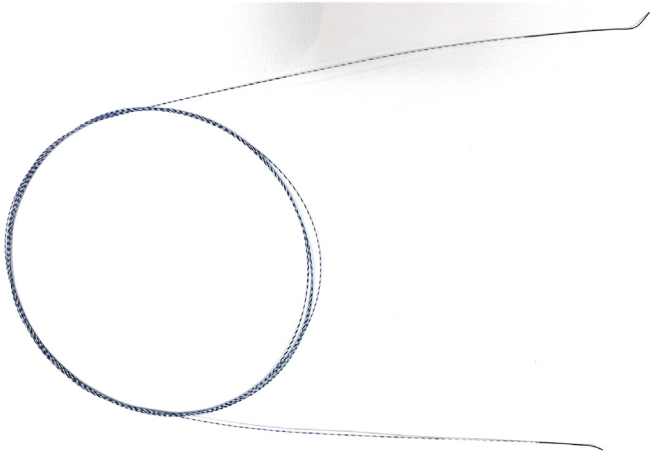

Figure 1. Double soft tips of the RevoWave DualMaster guidewire.

CASE PRESENTATION

An 81-year-old man was admitted to the hospital for treatment of common bile duct stones. CT and MRCP revealed 10-mm stones localized in the distal segment of the common bile duct (Figs. 1-3). However, cannulation of the bile duct was difficult due to parapapillary diverticulum. Unfortunately, a GW was inserted into the pancreatic duct during attempted bile duct insertion. The cannula was then withdrawn, leaving the GW in the pancreatic duct, and reinserted through the endoscope's working channel. The posterior end of the GW was then inserted through the end side of the cannula and led to the tip of the cannula. Successful wire-guided biliary cannulation was achieved using the trailing end of the GW. Afterward, the end initially inserted into the pancreatic duct was extracted through the working channel, leaving the GW exclusively within the bile duct. The cannula was then inserted over the GW, and cholangiography confirmed the presence of a stone. An endoscopic sphincterotomy was subsequently performed, and the common bile duct stone was successfully retrieved with a basket. No procedure-related adverse events occurred (Video 1, available online at www.videogie.org).

DISCUSSION

We have developed an innovative approach for performing the double GW procedure using only 1 GW. However, a major challenge remains with this approach, which is the inability to place a pancreatic duct stent. The prevention of post-ERCP pancreatitis is a notable concern among endoscopists, and it is considered unacceptable to increase risks for the sake of cost reduction.

There are 2 potential methods for placing a pancreatic duct stent following bile duct cannulation using this technique. The first involves using a papillotomy knife instead of a contrast cannula for bile duct cannulation and to perform endoscopic sphincterotomy first. Subsequently, the papillotomy knife and GW are removed from the bile duct,

Abbreviation: GW, guidewire.

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Figure 2. CT revealed 10-mm stones localized in the distal segment of the common bile duct.

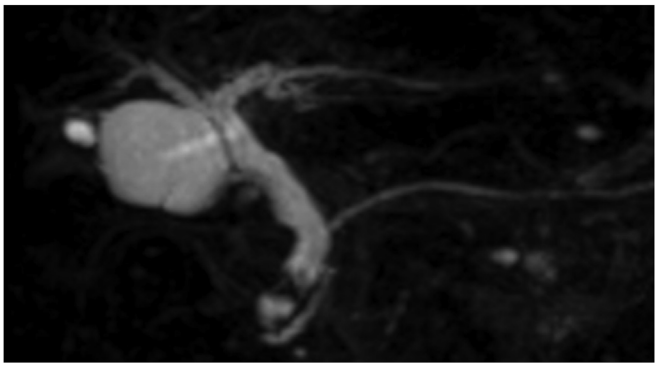

Figure 3. MRCP revealed 10-mm stones localized in the distal segment of the common bile duct.

leaving only the GW in the pancreatic duct, allowing for the placement of a pancreatic duct stent. The bile duct is then re-accessed, which is easier because the papillae follows endoscopic sphincterotomy. The second method entails cutting the GW into 2 independent GWs after successfully cannulating both the pancreatic and bile ducts. However, caution must be exercised during the device insertion over-the-wire, to prevent inadvertent movement of the GW due to its shorter hand portion.

The GW used in this study was 450 cm long, which was sufficient for simultaneous placement in both the bile and pancreatic ducts. Nevertheless, as mentioned previously, the development of a longer GW is desirable to cut it and use as 2 separate GWs.

In conclusion, the new pancreatic GW method using a double soft-tip GW offers both efficacy and cost effectiveness.

DISCLOSURE

The authors disclosed no financial relationships relevant to this publication.