A New Time-Saving Technique of Inserting Multiple Biliary Endoprotheses Without Fluoroscopy

Endoscopic insertion of biliary endoprotheses is an important method used in the treatment of a wide variety of malignant and benign obstructive lesions of the biliary tree (1). We describe here a new method of inserting multiple stents.

After an endoscopic sphincterotomy has been carried out, the first stent is inserted into the common bile duct in the usual fashion. Briefly, the common bile duct is cannulated with an endoscopic retrograde cholangiopancreatography (ERCP) catheter that can accept a 0.035-inch guide wire (ERCP-I, Wilson-Cook Medical Inc., Winston-Salem, NC, USA). The position of the catheter is then confirmed to be in the common bile duct either through the injection of some contrast material and the taking of a film, or by aspirating bile. Following this, the metallic stylet is removed, and a zebra guide wire (Microvasive, Boston Scientific Corporation, Watertown, MA, USA) is inserted through the cannula into the common bile duct. The ERCP catheter is then withdrawn while the guide wire is being pushed. A 7-cm 7-Fr straight home-made Teflon stent with side flaps is loaded onto the guide wire and pushed into the common bile duct with the help of a pusher tube. Once the first stent is in place, the guide wire is withdrawn so that it just comes out of the stent into the pusher tube. The common bile duct is then re-cannulated by the pusher tube itself (Figure 1), and the guide wire is pushed into the common bile duct while the pusher tube is withdrawn. Another stent is then loaded onto the guide wire and pushed into the common bile duct with the help of the pusher tube (Figure 2). The procedure can be repeated if more stents need to be inserted.

We are handicapped at our institution by the lack of an image intensifier, and more so by lacking a therapeutic duodenoscope with a channel size of 4.2 mm. We can therefore only insert biliary stents of up to 7 Fr in diameter. We have no reason to believe that the technique described here could not also be used with larger-diameter stents, but not using fluoroscopy can be problematic and cannot be generally recommended.

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Figure 1: The common bile duct has been cannulated, with the pusher tube seen alongside the first stent.

Figure 2: The second 7-Fr straight home-made stent has been inserted into the common bile duct.

Reference

1. Gilbert DA, DiMarino AJ Jr, Jensen DM, Katon RM, Kimmey MB, Laine LA, et al. Status evaluation: biliary stents. American Society for Gastrointestinal Endoscopy Technology Assessment Committee. *Gastrointest Endosc* 1992; 38: 750-2.

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