

Balloon-assisted insertion of a cholangioscope into the common bile duct: a novel technique

The feasibility of the application of an ultrathin endoscope in direct cholangioscopy and endoscopic retrograde cholangiopancreatography has been reported recently [1–4]. However, difficulties are occasionally encountered when inserting a scope into the common bile duct because the scope is sometimes pushed too far downward in the duodenum (● Fig. 1 a, b). We report here a novel technique of balloon-assisted insertion of an ultrathin scope into the common bile duct.

Two large stones with diameters of around 3 cm were found in the dilated common bile duct of an 89-year-old man with epigastric pain and jaundice. Unfortunately, we failed to remove all the stones by mechanical lithotripsy using a standard side-viewing duodenoscope because some of the fragmented stones were impacted deep in the common bile duct, and they could not be removed using a basket or extraction balloon catheter under fluoroscopic guidance. We also failed to reach the remaining stones with an ultrathin forward-viewing endoscope (EG530N5; Fujinon-Toshiba, Tokyo, Japan) using a guide wire, as described by Larghi & Waxman [1]. We therefore placed a duodenal balloon (a 30-mL balloon catheter; Top Corp., Tokyo, Japan) as a fulcrum to make insertion of the endoscope easier (● Fig. 1 c, d and 2 a, b). This technique made deep insertion of the scope possible and we successfully removed all the stones using a basket catheter under direct cholangioscopy (● Fig. 2 c, d).

To our knowledge, this is the first report on duodenal balloon-assisted insertion of a cholangioscope. Another cholangioscopic technique that uses a “babyscope” has been described but this is expensive and cumbersome, and is not suitable for lithotripsy because of the limited number

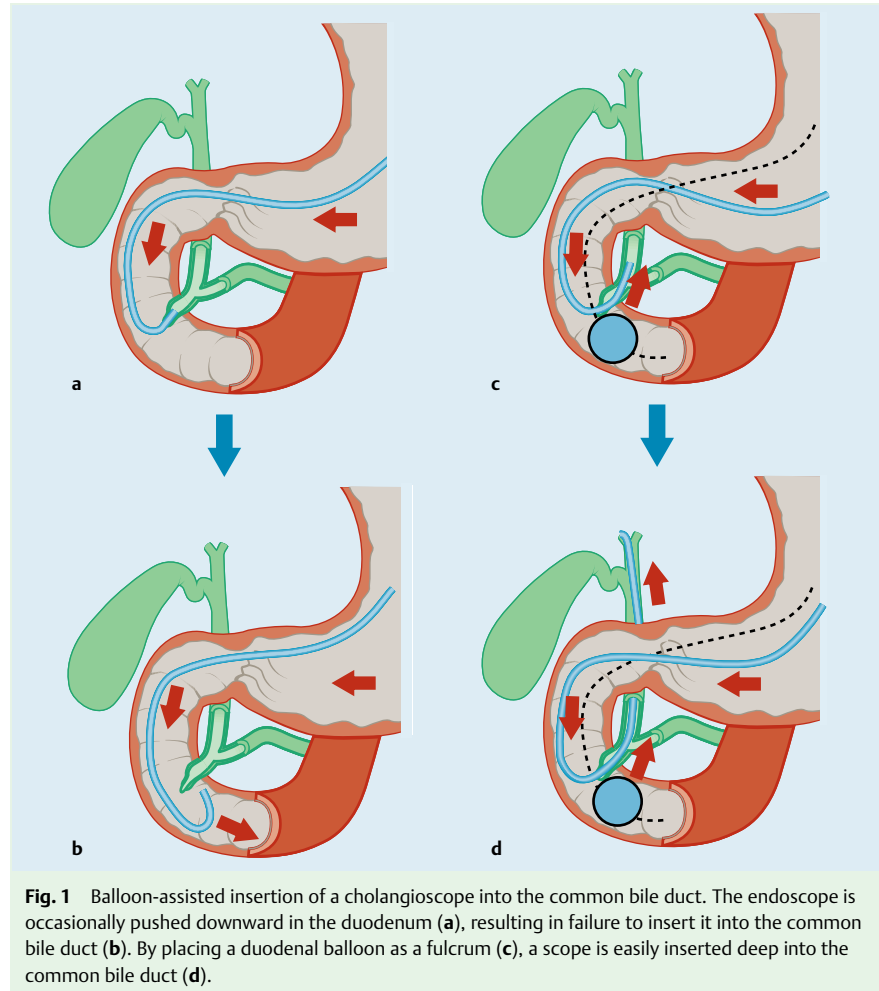


Fig. 1 Balloon-assisted insertion of a cholangioscope into the common bile duct. The endoscope is occasionally pushed downward in the duodenum (a), resulting in failure to insert it into the common bile duct (b). By placing a duodenal balloon as a fulcrum (c), a scope is easily inserted deep into the common bile duct (d).

of channels. Moreover, insertion of an endoscope using a guide wire [1] does not always work, as in the present case. We overcame these difficulties by using a duodenal balloon as a cross-tie, avoiding the need for a guide wire. Our method is easy to perform and so could be widely applied in direct cholangioscopy.

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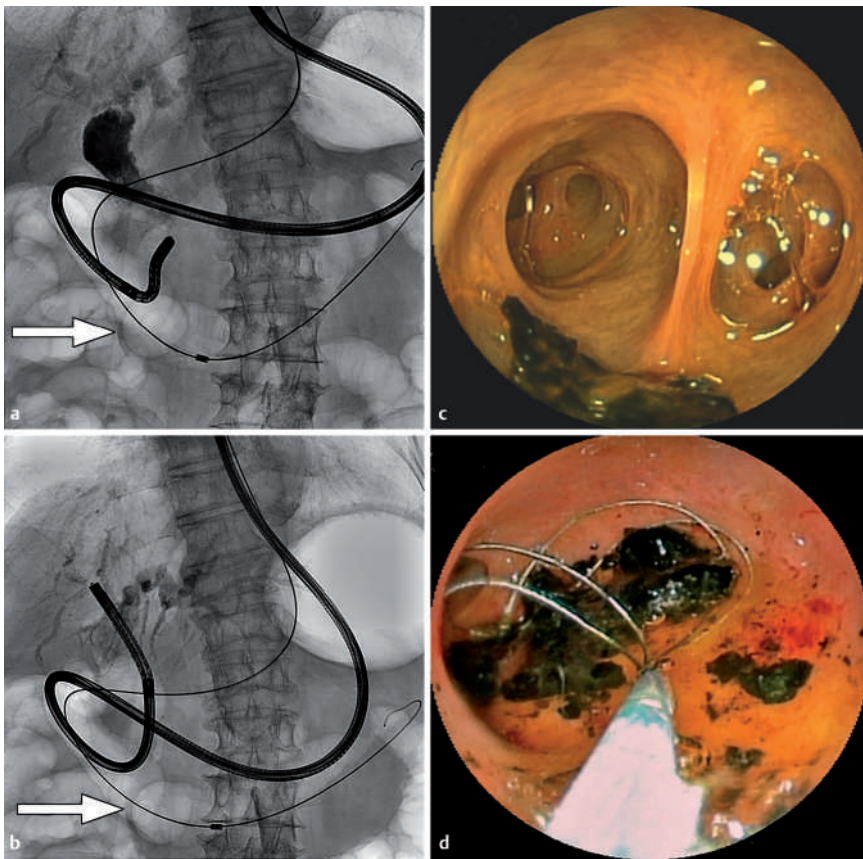


Fig. 2 Lithotripsy of common bile duct stones under balloon-assisted direct cholangioscopy, using an ultrathin scope. Fluoroscopic images showing insertion of the scope into the common bile duct (a, b), the arrows indicating the duodenal balloon. Cholangioscopic views of the fragmented stones at the biliary bifurcation (c) and of the stones being removed using a basket catheter (d).

References

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