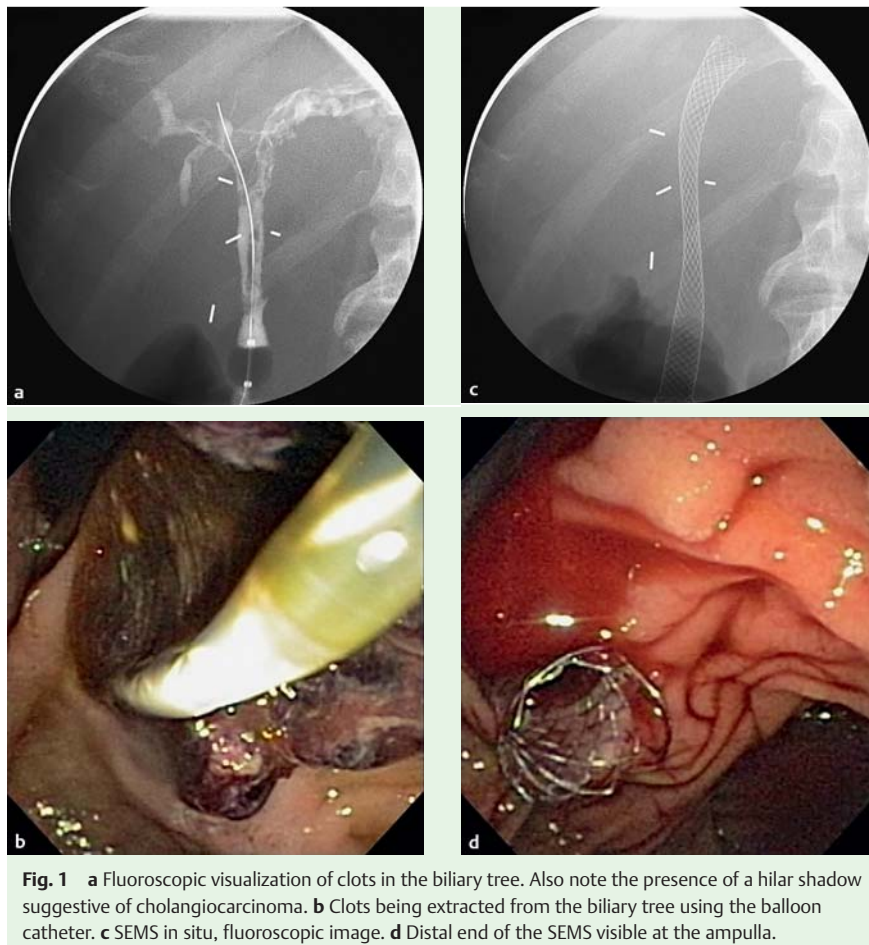


## Massive hemobilia during endoscopic retrograde cholangiopancreatography in a patient with cholangiocarcinoma: a case report



**Fig. 1** a Fluoroscopic visualization of clots in the biliary tree. Also note the presence of a hilar shadow suggestive of cholangiocarcinoma. b Clots being extracted from the biliary tree using the balloon catheter. c SEMS in situ, fluoroscopic image. d Distal end of the SEMS visible at the ampulla.

A 65 year old gentleman with a diagnosis of cholangiocarcinoma and previously placed Cotton-Leung intrahepatic biliary ductal stents, admitted with symptoms suggestive of biliary obstruction and cholangitis, underwent urgent endoscopic retrograde cholangiopancreatography (ERCP) (● Fig. 1 a).

After removing the previously placed stents, large clots and pus were extracted using a balloon catheter (BC) (● Fig. 1 b), following which massive bright red bleeding was observed along with systemic hypotension and tachycardia.

Intravenous fluid resuscitation was initiated, and the BC was re-inserted into the distal common bile duct (CBD), inflated and left in-situ for 15 minutes to provide tamponade. The patient responded well to intravenous fluids. Upon deflation of the balloon, it was observed that bleeding had

stopped. A fully-covered self-expanding metal stent (SEMS) was introduced into the CBD, extending down from the left side of the hilar bifurcation (● Fig. 1 c, d). No further bleeding or biliary obstruction was noted until surgical resection 3 weeks later, at which time the stent was easily removed.

First-line intervention for severe hemobilia is widely accepted to be angiographic embolization of the feeder vessel, with less preferred alternatives being surgical ligation of the bleeding vessels, or, as a last resort, segmental hepatic resection [1,2]. Using the BC for tamponade is an effective temporary measure. The constant radial expansile force of a fully-covered SEMS makes it a potential long-term tamponade device while simultaneously providing biliary drainage [3]. Close monitoring is required initially to ensure the

patient is not continuing to bleed along the sides of the stent. To the best of our knowledge only two other reports have previously described a similar procedure [4,5]. We propose that emergent use of a fully-covered SEMS should be considered a viable first-line measure that may obviate the need for angiography or surgical intervention in patients experiencing massive hemobilia while undergoing ERCP.

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**Competing interests:** None

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