A 72-year-old man was admitted for removal of bile duct stones. He had undergone insertion of two 7-F double pigtail stents (Cook Medical, Bloomingdale, Indiana, USA) 2 months earlier due to a failed stone extraction. He was taking low-dose aspirin (100 mg/day), but had stopped this 1 week ago. Endoscopic retrograde cholangiopancreatography (ERCP) following removal of the biliary stents showed a round stone, approximately 1 cm in size, above a weblike stricture in the distal common bile duct (● Fig. 1). Sphincteroplasty was carried out to 10 mm for 60 seconds, using a balloon dilator (CRE Wireguided, Boston Scientific International, La Garenne Colombes, France) over the guidewire (● Fig. 2). However, the stone could not be extracted because of the weblike stricture and continuous bleeding from the ampulla. An epinephrine injection (1:10000; 3 mL) was given and an endoscopic nasobiliary drainage tube inserted. Six hours later, the patient suddenly developed continuous hematemesis. His hemoglobin level fell from 14.5 g/dL to 10.2 g/dL, with a blood pressure of 90/60 mm Hg. An emergency duodenoscopy revealed active bleeding from the ampulla, and endoscopic hemostasis could not be achieved as the heavy bleeding was masking the source (● Fig. 3). A double pigtail stent was inserted and emergency angiography carried out. This showed multiple points of extravasation of the contrast medium from three branches of the anterior superior pancreaticoduodenal artery (● Fig. 4). The arteries were successfully embolized with an infusion of butyl cyanoacrylate (Histoacryl) (● Fig. 5).

Hemorrhage related to endoscopic balloon dilation has an incidence of 0%–2.6%, which is less frequent than with sphincterotomy. Marked bleeding requiring surgical or interventional therapy is extremely rare in reported studies [1–3]. Endoscopic balloon dilation is also the preferred strategy in patients with coagulopathy [4, 5]. However, bleeding associated with large-balloon sphincteroplasty might be worsened by rapid inflation or deflation of the balloon or frequent attempts of the procedure. In such cases, angiographic embolization is an effective diagnostic and therapeutic alternative.
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Fig. 3  a Endoscopic view of the ampulla following balloon sphincteroplasty and an epinephrine injection. b Duodenoscopy showing active bleeding from the ampulla; the bleeding focus is not evident because of the massive hemorrhage.

Fig. 4  a Angiography showing multiple foci of extravasation of contrast medium from three branches of the anterior superior pancreaticoduodenal artery (arrows). b Superselective angiography view of the same lesion (arrows).

Fig. 5 Cessation of extravasation and successful control of bleeding (arrow) after angiographic embolization with Histoacryl.