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## Hemostatic powder for the intraductal treatment of biliary cancer bleeding

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Biliary tract bleedings are rare cases of upper-GI bleeding<sup>1</sup> that are usually self-limited; otherwise, viable treatment options are represented by transarterial embolization, balloon tamponade, biliary stent placement,<sup>2</sup> and argon plasma coagulation.<sup>3</sup>

Hemospray (TC-325; Cook Medical, Bloomington, Ind, USA) is an inorganic powder approved for the treatment of upper-GI bleeding.<sup>4</sup> Nevertheless, reports on its use for biliary tract bleeding due to biliary cancer are lacking.

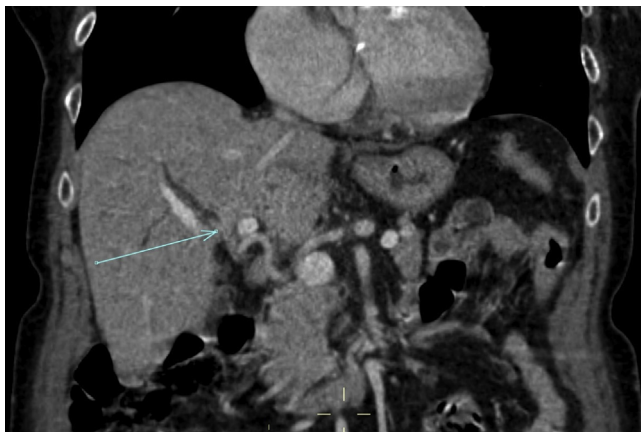
We report the case of an 87-year-old-woman who was admitted to our hospital for hyperbilirubinemia (18.7 mg/dL) and weight loss. According to CT and magnetic resonance imaging, a type IIIA Corlette-Bismuth Klatskin cholangiocarcinoma was diagnosed (Figs. 1 and 2). Despite the absence of metastases, the patient was deemed not suitable for curative resection because of her comorbidities and age.

After an unsuccessful attempt to obtain complete biliary drainage by ERCP, bilateral percutaneous transhepatic cholangiography (Figs. 3A-C), followed by internal-external biliary drainage positioning, was performed. In a second procedure, 2 uncovered metallic stents (Wallstent; Boston Scientific Corp, Marlborough, Mass, USA) were placed (Fig. 4).

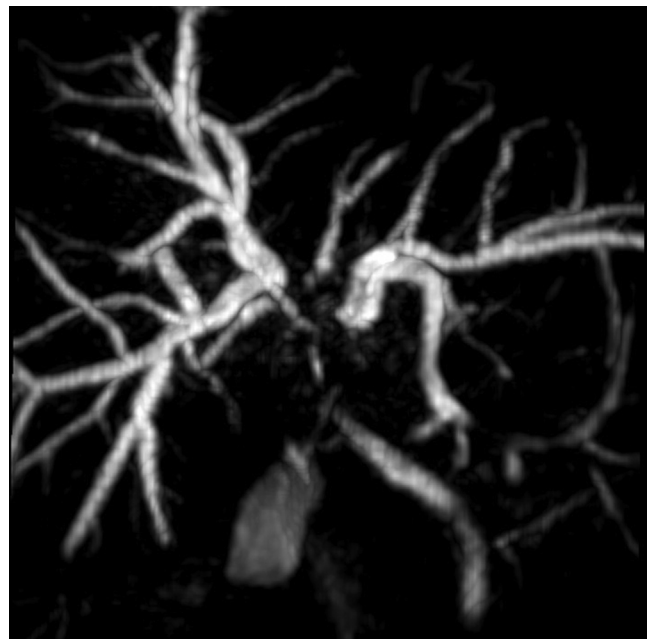
Twelve days later, the patient became hemodynamically unstable with a sudden drop of hemoglobin level to 5.8 g/dL and melena. Endoscopic examination showed active arterial oozing and a huge blood clot, almost completely involving the 2 stents. Because of partial distal dislodgment

of uncovered stents, it was not possible to place covered stents within them. Thus, we decided to insert the Hemospray cannula inside the left stent, up to the hilum, and spray the powder while withdrawing the cannula down to the papilla (Video 1, available online at [www.VideoGIE.org](http://www.VideoGIE.org)). Active bleeding stopped thereafter, and the patient did not experience immediate adverse events. The patient remained asymptomatic after the procedure, and follow-up examinations showed a rise of the hemoglobin level, whereas the bilirubin value remained just above normal (1.41 mg/dL). Because no curative options could be offered to the patient, she was discharged 16 days later.

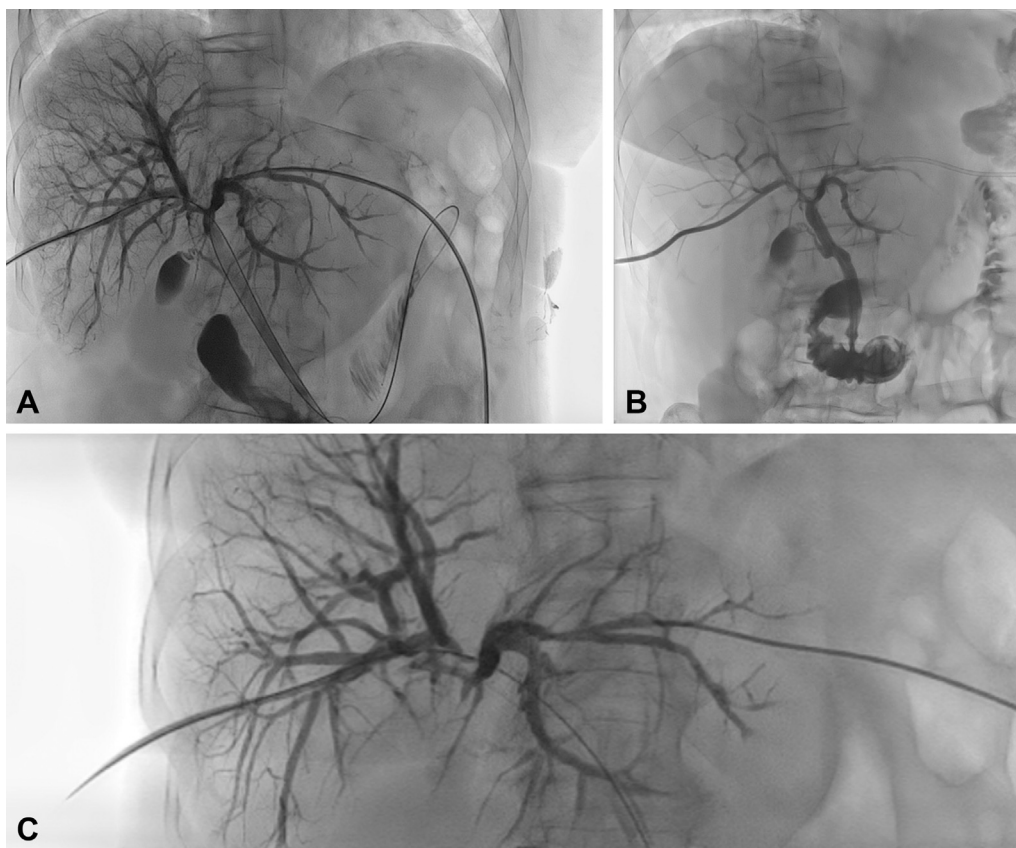
To our knowledge, this is the first reported case of hemostatic powder used to treat a malignant intraductal bleeding, which was successful without any major adverse events. Reasons of concern about the safety of this procedure are the impossibility of obtaining a direct view of the bleeding site and of targeting the powder application. Therefore, the risk of biliary obstruction cannot be ruled out completely. However, in an acute setting with a patient



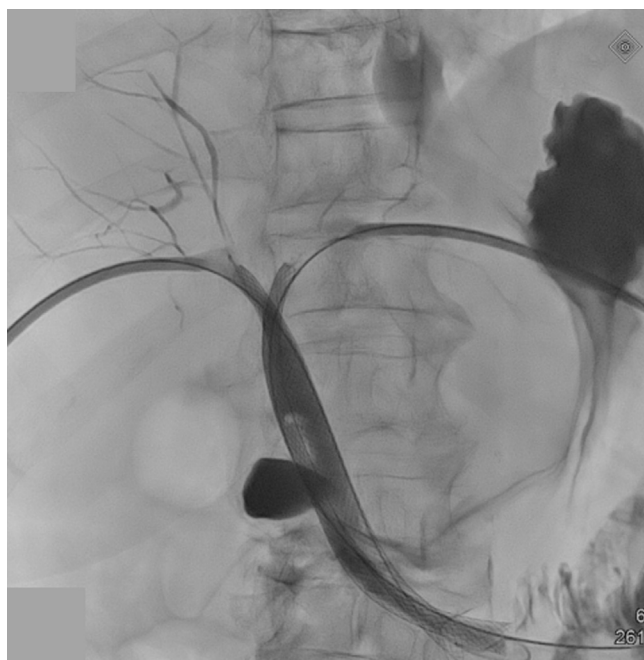
**Figure 1.** CT scan of Klatskin cholangiocarcinoma.



**Figure 2.** Magnetic resonance image of Klatskin cholangiocarcinoma.



**Figure 3.** A, B, C, Angiographic views of the malignant stricture.



**Figure 4.** Fluoroscopic image of biliary stent placement; guidewire in the left stent.

in unstable condition, where other treatment options are not feasible, this could be considered a valuable rescue procedure.

## DISCLOSURE

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