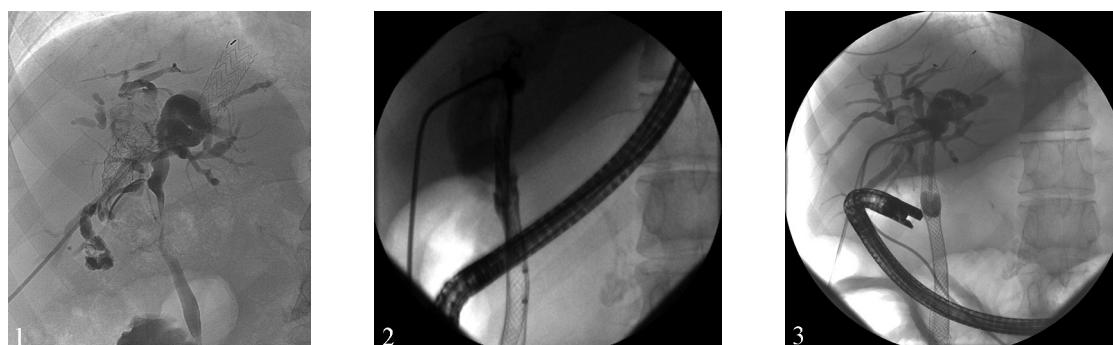


Endoscopic Complications in Treating Portal Biliopathy: A Rare Case of Porto-biliary Fistula

Alberto Busatto¹, Francesco Ferrara¹, Matteo Todisco², Enrico Gringeri³, Marco Senzolo¹

1) Department of Surgery, Oncology and Gastroenterology (DISCOG), Gastroenterology Unit, University Hospital of Padua, Padua; 2) Radiology Unit, Department of Radiology, University Hospital of Padua, Padua; 3) Department of Surgery, Oncology and Gastroenterology (DISCOG), Hepatobiliary Surgery and Liver Transplantation Unit, University Hospital of Padua, Padua, Italy



Portal biliopathy (PB) is a rare condition characterized by narrowing of both extra- and intrahepatic biliary ducts due to the compression of venous collaterals caused by chronic extrahepatic portal vein obstruction and/or ischemic damage [1]. The recommended first-line treatment is endoscopic stenting with or without dilatation [2]. However, the rate of complications is higher compared to patients without PB, due to portal hypertension and altered anatomy with pericholedochal varices and venous collaterals in ampullary and juxta-papillary regions [3].

In the present case, a young male presented with obstructive jaundice due to symptomatic PB with compression of the main common bile duct by a very dilated portal vein (35mm) despite TIPS placement, in a genetic porto-sinusoidal vascular disorder (Fig. 1). Subsequently, after a percutaneous biliary drainage (PBD), ERCP was performed, with the addition of two plastic stents without performing sphincterotomy. No relief of biliary obstruction was seen; therefore, the removal of PBD was planned, and a second ERCP was performed. After the withdrawal of the first stent, the second was removed, after sphincterotomy with a Fogarty balloon due to its upward migration. Immediately after removal, significant hemobilia occurred, firstly treated with adrenaline injection and placement of two self-expandable fully covered metal stents (FC-SEMS) 4 cm and 6 cm in length with no resolution of the bleeding (Fig. 2). Cholangiography performed through the PBD revealed a proximal porto-biliary fistula, prompting the placement of another FC-SEMS (8 cm) to occlude the hole. A balloon was inflated inside the stent to reinforce bleeding control (Fig. 3). Urgent liver transplantation was performed on the same day.

Complications can occur up to 20% during endoscopic treatment of PB, with bleeding being the most common [4, 5].

However, more rare complications such as porto-choledochal fistula should be considered. This is described in only four cases in the literature, associated with a large portal diameter and stent bedsores as risk factors [6].

Corresponding author: Marco Senzolo, marcosenzolo@hotmail.com

Conflicts of interest: None to declare.

REFERENCES

1. Llop E, Juan C de, Seijo S, et al. Portal cholangiopathy: radiological classification and natural history. *Gut* 2011;60:853. doi:[10.1136/gut.2010.230201](https://doi.org/10.1136/gut.2010.230201)
2. Saraswat VA, Rai P, Kumar T, Mohindra S, Dhiman RK. Endoscopic management of portal cavernoma cholangiopathy: Practice, principles and strategy. *J Clin Exp Hepatol* 2014;4(Suppl 1):S67-S76. doi:[10.1016/j.jceh.2013.08.011](https://doi.org/10.1016/j.jceh.2013.08.011)
3. Franceschet I, Zanetto A, Ferrarese A, Burra P, Senzolo M. Therapeutic approaches for portal biliopathy: A systematic review. *World J Gastroenterol* 2016;22:9909-9920. doi:[10.3748/wjg.v22.i45.9909](https://doi.org/10.3748/wjg.v22.i45.9909)
4. Goyal K, Varshney VK, Hussain S, Garg PK, Bhargava N. Endoscopic Biliary Stenting for Portal Biliopathy Perforating Paracholedochal Collateral: A Rare Complication. *J Dig Endoscopy* 2020;11:235-237. Doi:[10.1055/s-0040-1709792](https://doi.org/10.1055/s-0040-1709792).
5. Sharma M, Rameshbabu CS. Portal cavernoma cholangiopathy: An endoscopic ultrasound based imaging approach. *J Clin Exp Hepatol* 2014;4(Suppl 1):S53-S61. doi:[10.1016/j.jceh.2013.08.015](https://doi.org/10.1016/j.jceh.2013.08.015)
6. Fairchild AH, Lessne M, Hanif S, et al. Iatrogenic Portobiliary Fistula following Endoscopic Biliary Stent Placement: A Case Series and Review of the Literature. *J Vasc Interv Radiol* 2023;34:357-361.e1. doi:[10.1016/j.jvir.2022.11.032](https://doi.org/10.1016/j.jvir.2022.11.032)