

Cartas al Director

Exceptional vascular complication during ERCP: cannulation of the hepatic artery

Key words: ERCP. Hepatic artery. Pancreatic cancer. Bleeding. Hemobilia. Haemostasis.

Dear Editor,

The most frequent complications of endoscopic retrograde cholangiopancreatography (ERCP) and endoscopic biliary sphincterotomy are pancreatitis, cholangitis, hemorrhage, and duodenal perforation. A number of less common complications have also been described including vascular (portal vein, perampullary lymphatic system, hepatic artery) opacification in only small numbers of patients or in individual cases (1-6). The present case report describes an accidental hepatic artery cannulation following ERCP. We discuss the possible pathogenic mechanism, the risks and the endoscopic management to achieve the hemostasis.

Case report

An 84-year-old man with a history of diabetes mellitus, severe chronic obstructive lung disease, arterial hypertension, abdominal aneurysm, cholecistectomy, was admitted to hospital due to a biliary obstruction. A computerized tomography (CT) scan revealed a pancreatic mass and a fine-needle aspiration (FNA) confirmed an adenocarcinoma. ERCP showed a papilla with infiltrative aspect. Papilla was cannulated with a sphincterotome wire-guided (sphincterotome CT-25M, Cook; and Jag-

wire 0,35 in. Boston Scientific). A small amount of contrast dye was injected and the hepatic artery was opacified (Fig. 1). The retrieval of the sphincterotome was followed by a severe spurting hemobilia, stopped with the reintroduction of the sphincterotome (Fig. 2). Two minutes afterwards, a new retrieval of the sphincterotome caused an important rebleeding which required a new reintroduction of the sphincterotome in the papilla during 20 minutes long. In the last retrieval, rebleeding was not observed. The patient was monitored, remaining stable during the next days. He was discharged six days afterwards, with a biliary metal stent drainage performed percutaneously.

Discussion

The celiac trunk is the common output from the abdominal aorta of three arteries: the left gastric artery, the splenic artery and the common hepatic artery. The common hepatic artery extends to the liver by partially irrigating the stomach, duodenum and pancreas. This artery gives rise to the gastroduodenal artery and proper hepatic artery. The arterial supply of the papilla derives from branches of the gastroduodenal artery (Fig. 1). Vascular cannulations during ERCP, mainly of the portal system (1-5) have been exceptionally reported. In these cases, most of the patients had pancreatic cancer. It is possible that the presence of aberrant vessels due to a neoplasia may favour this complication. Only one case of accidental cannulation of the hepatic artery during ERCP (6), similar to ours, has been described in the literature until now. Our patient had a pancreatic cancer. The presence of aberrant vessels and/or the anatomic alteration resulting from the cancer, or a direct trauma to the papilla (precut, wire, etc.) may explain the hepatic artery cannulation with the wire through the gastroduodenal artery. Mechanical haemostasis with the sphincterotome permits a successful control of the bleeding. Filling of arterial, portal, or lymphatic vessels has several potential risks like sepsis, air embolism, bleeding, or thrombosis. Failed prompt recognition of contrast in vascular structures may cause confusion leading to the prolongation of the procedure, thereby increasing the risk of further complications. An opacified hepatic artery may be mis-

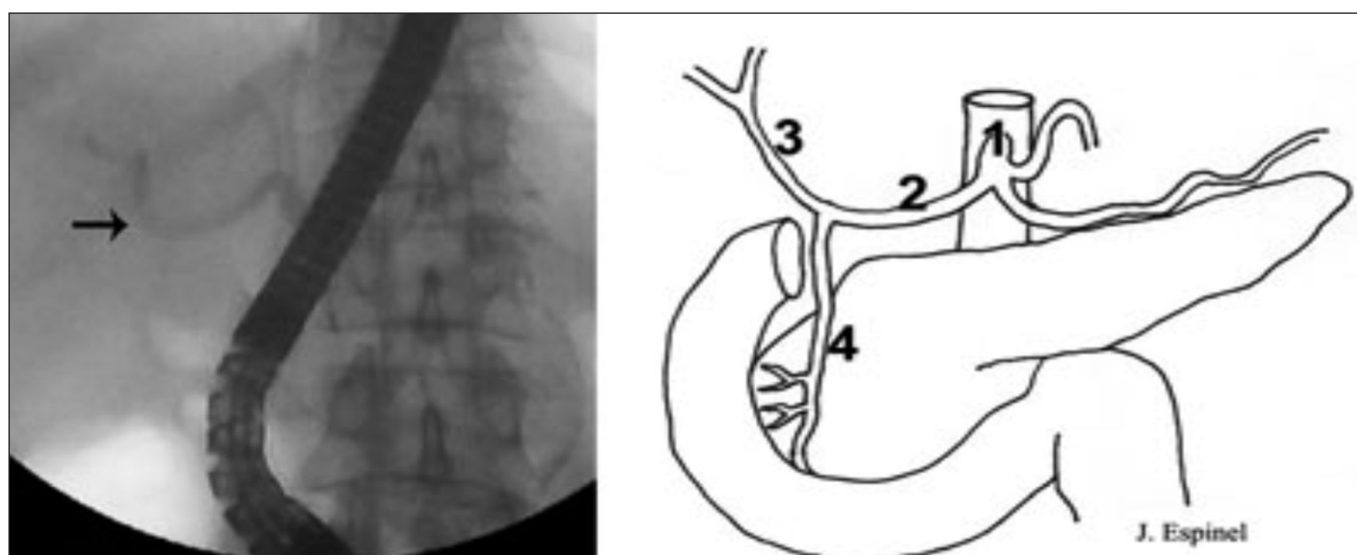


Fig. 1. ERCP view showing a hepatic artery filling (arrow) and a schematic drawing showing the arterial supply of the papilla (1. the celiac trunk; 2. the common hepatic artery; 3. the proper hepatic artery; 4. the gastroduodenal artery).

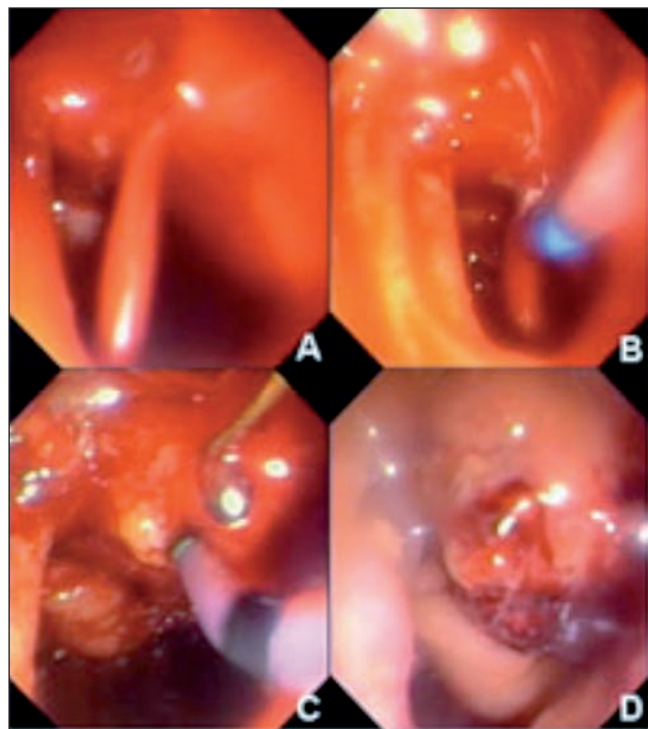


Fig. 2. Endoscopic view showing a severe jet hemobilia (A), arrested with the reintroduction of the sphincterotome (B y C). Finally, the end of bleeding (D).

interpreted as an incompletely filled bile duct. Insertion of a stent into the hepatic artery may worsen the consequences. Aspiration of the duct before the contrast injection and image recording might aid for immediate diagnosis.

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