

Portal vein filling: an unusual complication of needle-knife sphincterotomy



Fig. 1 Endoscopic retrograde cholangiopancreatographic view showing communication with and opacification of portal veins after needle-knife sphincterotomy.

The most frequent complications associated with endoscopic retrograde cholangiopancreatography (ERCP) are pancreatitis, hemorrhage, and perforation. We report an unusual case of portal vein filling after needle-knife sphincterotomy in a patient with a pancreatic carcinoma. A 59-year-old woman was admitted to our hospital with obstructive jaundice, fever, elevated liver enzymes, and dilatation of the biliary and pancreatic ducts. Magnetic resonance imaging revealed a mass at the head of the pancreas. An ERCP with needle-knife sphincterotomy was performed over a pancreatic stent after several failed cannulation attempts.

On cannulation, contrast was noted to clear within a few seconds (● **Figure 1**). Aspiration revealed blood, indicating possible cannulation of the portal vein, and the procedure was terminated immediately. The patient went into atrial fibrillation in the recovery room, but this reversed spontaneously within 6 hours. The patient was operated on 3 weeks later. She was found to have an adenocarcinoma of the pancreas with no signs of portal vein infiltration, and a cephalic duodenopancreatectomy was performed. Histological examination of the resected specimen identified an infiltrating ductal adenocarcinoma, stage T3N0M0, with infiltration of the superior mesenteric vein. The patient subsequently received chemotherapy and radiation therapy and has remained stable over the 6 months since her operation.

Filling of the portal venous system is an infrequent complication of ERCP, with an incidence between 1 in 6000 and 1 in 8000 cases [1,2]. Most of these patients presented with adenocarcinoma of the pancreas. It has also been described with different cannulation techniques [3,4]. This complication can result from laceration of a small portal vein [2–4] or from direct trauma to the papilla [5]. Neo-angiogenesis or aberrant vessels resulting from the cancer can also explain its occurrence, as reported in the literature.

Filling of the portal vein at ERCP carries potential risks, including bleeding, sepsis, thrombosis, and air embolism. Aspiration of the duct before the injection of contrast might aid in its prompt diagnosis.

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