

Anatomical and Radiologic study about the vascular supply of the pancreas interrelated with resective surgery

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Postoperative pancreatic fistula is still regarded as a major complication. Its incidence varies greatly in different reports. The aim of the present study was to evaluate possible correlation between the incidence of postoperative complications and the vascular architecture of the pancreas. Ten specimens of pancreas, duodenum and spleen were injected to obtain vascular casts of the hepatic, splenic and superior mesenteric artery (SMA). Computed tomography angiographs of the upper abdomen of 30 patients, that undergone to pancreatoduodenectomy, and of 50 subject controls (25 female, 25 men) with a mean age of 70.2 years were analysed to investigate the depiction rate and branching of the vascular supply of the pancreas main vessels. The anterior superior pancreaticoduodenal artery (ASPD) and the posterior superior pancreaticoduodenal artery (PSPD) were visible in 95% and 98.2%. The ASPD contributes to create one or two anterior arcade in 90% and 10% respectively, the PSPD contributes to create one posterior arcade in 100%. The inferior pancreaticoduodenal stem was visible in 100% with its two branches. The inferior origin of the posterior arcade i.e. inferior anterior pancreaticoduodenal artery (IAPA) emerges from SMA in 40%, from the first jejunal artery in 60%. The dorsal pancreatic artery (DPA) was visible in 45%, coming from the splenic artery in 60%, from the celiac trunk in 30%, from the common hepatic artery on 10%. The transverse artery was visible in 80% coming from the SMA in 60%, from the dorsal pancreatic artery in 30% and from the anterior arcade in 10%. Preoperative understanding of the vascular anatomy of the pancreatic head is important in order to reduce frequency of complication.

Key words

CT angiography, vascular anatomy, pancreas, anatomy, radiologic anatomy.