

Celiac Artery Stenosis Is Critical Situation For Pancreaticoduodenectomy

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Background : Celiac artery stenosis (CAS) is rarely of consequence owing to rich collateral supply from the superior mesenteric artery through the pancreatic head. However, pancreaticoduodenectomy (PD) in CAS disrupts these collaterals, and cause ischemic complications to the liver, stomach and spleen. Herein, we present three patients who underwent PD due to periampullary cancer in the setting of hemodynamically significant CAS.

Methods : Herein, we present three patients who underwent PD due to periampullary cancer in the setting of hemodynamically significant CAS.

Results : A 67-year-old female presented obstructive jaundice due to ampulla of Vater cancer. Computed tomography (CT) showed CAS with multiple collaterals inside pancreatic head. We didn't make pre or intraoperative efforts to stent occluded celiac artery because we recognized Arc of Buhler to maintain adequate hepatic artery perfusion after pylorus preserving PD(PPPD). Unfortunately, other two patients didn't have Arc of Buhler. The second patient underwent pylorus preserving PPPD for distal CBD cancer. Unfortunately, we didn't recognize CAS preoperatively. Flow in hepatic artery and splenic artery disappeared after clamping of gastroduodenal artery (GDA) and therefore, interventional stent insertion into celiac artery was performed intraoperatively. In third case, CAS was revealed by CT scan preoperatively, we performed endovascular stenting in celiac axis and we confirmed adequate flow of hepatic artery and splenic artery with intraoperative doppler ultrasonography after GDA clamping. All three patients never experienced ischemic complications to liver and spleen during postoperative period.

Conclusions : Pancreaticoduodenectomy in patients with CAS requires further perioperative attention and early recognition for CAS and appropriate treatment modality such as endovascular stenting could avoid ischemic complication after PD

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