

Markedly elevated liver transaminases following pancreaticoduodenectomy: celiac artery thrombosis in disguise

Durgatosh Pandey¹, Pankaj Kumar Garg^{1,2}, Ashish Jakhetiya¹, Jyoti Sharma¹, S. H. Chandrashekhara³

¹Department of Surgical Oncology, Dr BRA Institute Rotary Cancer Hospital, All India Institute of Medical Sciences, New Delhi 110029, India;

²Department of Surgery, University College of Medical Sciences and Guru Teg Bahadur Hospital, University of Delhi, Delhi 110095, India;

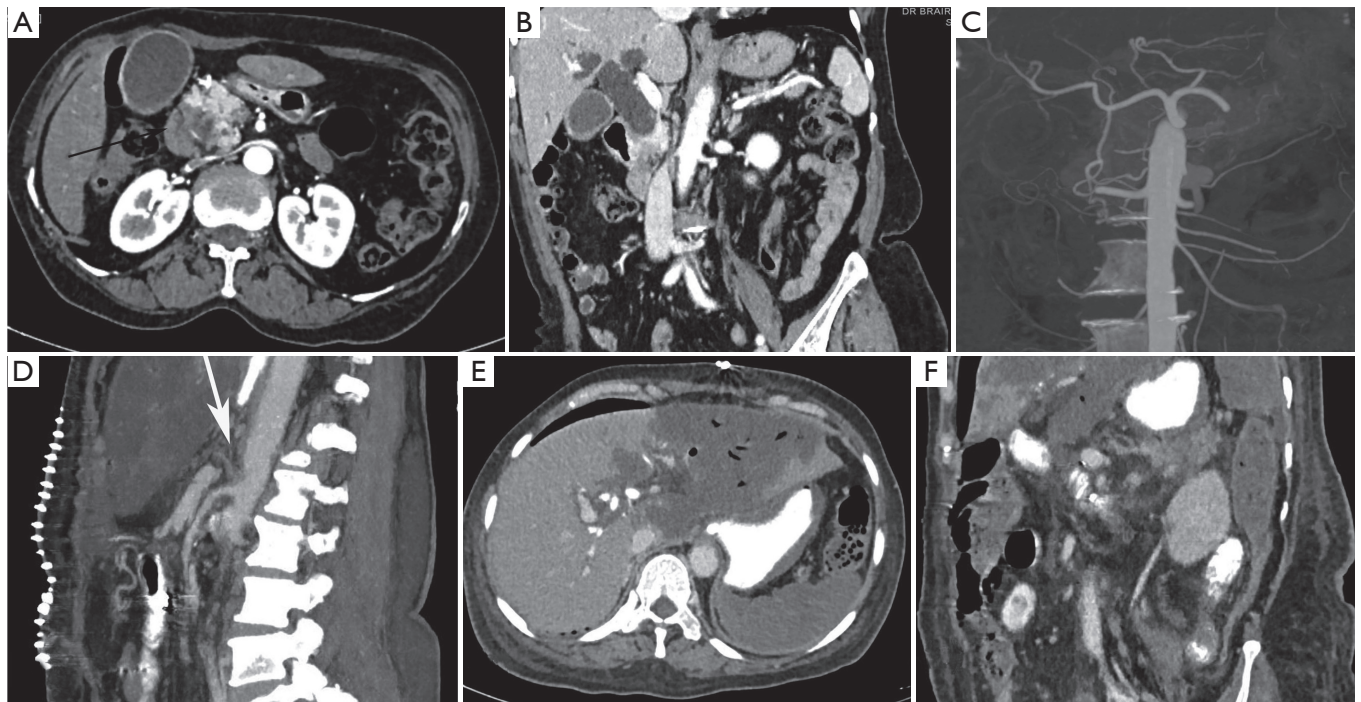
³Department of Radiodiagnosis, Dr BRA Institute Rotary Cancer Hospital, All India Institute of Medical Sciences, New Delhi 110029, India

Correspondence to: Dr. Pankaj Kumar Garg. Department of Surgical Oncology, Dr BRA Institute Rotary Cancer Hospital, All India Institute of Medical Sciences, New Delhi 110029, India. Email: dr.pankajgarg@gmail.com.

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A 63-year-old lady underwent classical pancreaticoduodenectomy with regional lymphadenectomy for periampullary cancer. Preoperative contrast-enhanced computed tomography (CECT) of abdomen revealed dilated common bile duct which showed abrupt cut-off at ampulla. CECT also revealed replaced right hepatic artery arising from the left gastric artery (Panels A-C). During surgery, gastroduodenal artery was test-clamped to confirm pulsations in the hepatic artery before being ligated. On third postoperative day, she was found to have altered sensorium. Liver function tests showed bilirubin of 10.9 mg%; however, liver transaminases were markedly elevated (AST of 2,095 U/L and ALT of 1,243 U/L)—prothrombin time was also elevated [international normalized ratio (INR) =2.2]. Postoperative CECT of abdomen and pelvis revealed thrombosis of celiac artery trunk resulting in marked liver and spleen necrosis. Distal right hepatic artery was reformed by the

collaterals; it explains relative sparing of right lobe of liver (Panels D-F).

Marked elevation of liver transaminases suggesting acute hepatic insult is a rare immediate postoperative complication following pancreaticoduodenectomy; however, if present, this may be caused by drug induced hepatotoxicity, blood transfusion reaction, co-existent viral hepatitis, sepsis or perioperative hypotension. The etiological factors for celiac artery thrombosis are arteriosclerosis, hyper-coagulable states, extrinsic stenosis (celiac artery stenosis—compression by median arcuate ligament, the celiac ganglia or surrounding local fibro-inflammatory tissue), cancer, surgical trauma, congenital stenosis, catheter related injury during endovascular therapy, and idiopathic. Presence of celiac artery stenosis is not-so-uncommon entity; pancreatic surgeons must be aware of this vascular entity to avoid potentially catastrophic ischemic complications after pancreaticoduodenectomy.

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Footnote

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