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# ***International Journal of Case Reports in Medicine***

*Vol. 2013 (2013), Article ID 501114, 17 minipages.*

*DOI:10.5171/2013.501114*

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*Case Report*

## **Rupture of Gastroduodenal Artery Pseudoaneurysm**

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Received 10 June 2013; Accepted 24 June 2013; Published 24 July 2013

Academic Editor: Tetsuo Ajiki

**Cite this Article as:** Amit Kumar C. Jain, Sunil Joshi, S. G. Subramanyam and Namita Sinha (2013), "Rupture of Gastroduodenal Artery Pseudoaneurysm," International Journal of Case Reports in Medicine, Vol. 2013 (2013), Article ID 501114, DOI: 10.5171/2013. 501114

## **Abstract**

Pseudoaneurysm is a rare and a dangerous complication of chronic pancreatitis. The most common artery affected by pseudoaneurysm is the splenic artery. We hereby report a rare case of rupture of pseudoaneurysm of the gastroduodenal artery due to chronic pancreatitis.

**Keywords:** Pseudoaneurysm, gastroduodenal artery, pancreatitis.

## **Introduction**

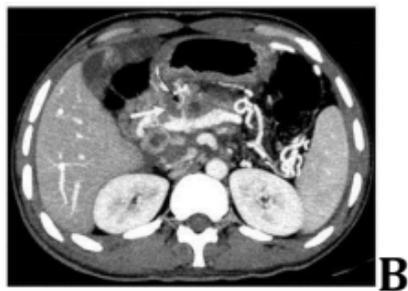
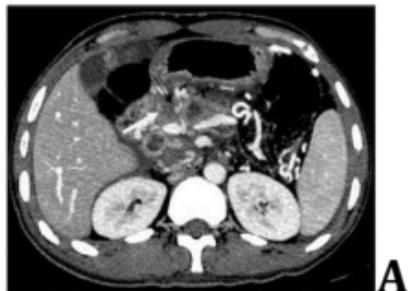
Visceral artery aneurysm is a rare condition. It can be a true aneurysm or pseudoaneurysm. The common causes of pseudoaneurysm include pancreatitis, infection, and blunt trauma (Chong 2008). Gastroduodenal artery aneurysm accounts for 1.5% of all the splanchnic artery aneurysms, but the true incidence of the pseudoaneurysm is unknown (Kim 2003). Rupture of the pseudoaneurysm is a rare but life-threatening complication following chronic pancreatitis. We recently encountered a patient with ruptured pseudoaneurysm whom we were able to save.

## Case Report

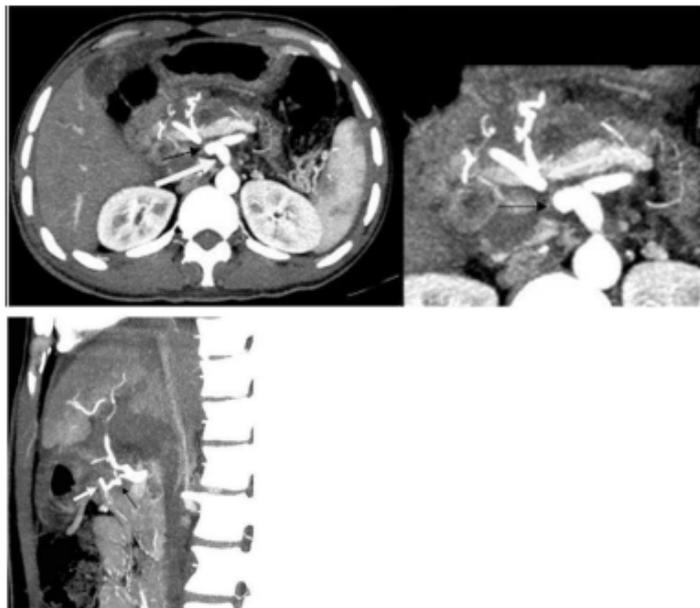
A 32-year-old male patient presented with history of severe abdominal pain for the last 3 days. The pain was radiating to the back. He also had one episode of nonbilious vomiting. There was no history of fever, hematemesis, melena, or jaundice. Patient was a known case of chronic pancreatitis with a history of intake of alcohol for the last 20 years.

On examination, patient was severely anaemic with a pulse rate of 88/min, blood pressure of 128/86 mm Hg, and respiratory rate of 16/min. The abdominal examination revealed tenderness all over the abdomen along with guarding and rigidity.

Investigation showed haemoglobin of 5gm%, total count of 9100, s.amylase 218U/L, and lipase 452U/L. His renal function and liver function were normal. Ultrasound showed moderate ascites. CT abdomen revealed haematoma in pancreatic head region with pseudoaneurysm of gastroduodenal artery (Figures 1a and 1b). There was haemoperitoneum with pancreatic parenchymal atrophic changes.



**Figure 1a: Axial CT Cuts in Arterial (A) and Venous (B) Phases after Contrast Administration Demonstrating a Pseudocyst (White Arrow) in the Pancreatic Head with a Pseudoaneurysm (Black Arrow) in the Left Lateral Wall.**



**Figure 1b: MIP Images in Axial, Magnified Axial, and Sagittal Views Demonstrating the Pseudoaneurysm (Black Arrows) Arising from the Gastroduodenal Artery (White Arrows).**

Patient underwent emergency exploratory laparotomy which showed haemoperitoneum with clots of around 750ml. There was 3x6 cm haematoma over the anterior surface of head of pancreas above in lesser curvature (Figure 2). Kocherization of duodenum was done with evacuation of haematoma and aneurysm exclusion by ligation of the gastroduodenal artery. Postoperative period was uneventful.



**Figure 2: Hematoma in Lesser Sac (Arrow) Due to Ruptured Pseudoaneurysm of Gastroduodenal Artery during Exploratory Laparotomy.**

## **Discussion**

Pseudoaneurysm is an uncommon complication of chronic pancreatitis. The splenic artery is the most commonly involved artery, followed by gastroduodenal and pancreaticoduodenal arteries (Patel 2003). Rupture of pseudoaneurysm may result in either occult bleeding or massive bleeding (Kumar 2007). Massive bleeding results in increased abdominal pain. Bleeding due to pseudoaneurysm is most commonly reported in stomach/duodenum followed by peritoneal cavity, pancreatic duct, and biliary tree (Patel 2003). Haemorrhage is associated with mortality rate exceeding 50% (Weits 2002). CT scan and ultrasound usually detects the pseudoaneurysm. Arteriography is the diagnostic gold standard, which confirms the diagnosis and allows therapeutic

embolization of the pseudoaneurysm (Macias 2010). Surgery is indicated in patients with bleeding and embolization failure (Macias 2010). In this case which was an emergency, we preferred surgery as the patient had features of peritonitis and he was bleeding. Also, we did not have the facility of therapeutic embolization during that time.

Pseudoaneurysm of gastroduodenal artery is a rare complication of chronic pancreatitis. Rupture of this pseudoaneurysm is a serious condition associated with high mortality. Timely management could be a life-saving measure.

## **Conclusion**

Visceral aneurysms are rare complications of pancreatitis. Pseudoaneurysm of gastroduodenal artery is very rare, and only few cases have been reported in the literature. Rupture of this pseudoaneurysm is potentially dangerous and is associated with high mortality.

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