

## CASE REPORT

---

# ***Hemosuccus Pancreaticus: An Uncommon Cause of Gastrointestinal Hemorrhage. A Case Report***

**Sorabh Kapoor, Pankaj Rao, Sujoy Pal, Tushar Kanti Chattopadhyay**

Department of Gastrointestinal Surgery and Liver Transplantation,  
All India Institute of Medical Sciences. New Delhi, India

### **ABSTRACT**

**Context** Pseudoaneurysms of peripancreatic arteries usually arise as a complication of acute and chronic pancreatitis. These pseudoaneurysms may either bleed intra abdominally following rupture or may erode into the adjacent hollow viscera and manifest as gastrointestinal bleeding. Pseudoaneurysms rarely communicate with the pancreatic duct and bleeding occurs from the ampulla of Vater in the form of *hemosuccus pancreaticus*.

**Case report** We report a patient with chronic pancreatitis who presented with *hemosuccus pancreaticus*. Contrast enhanced computerized tomography and angiography revealed bleeding from a left gastric artery pseudoaneurysm. Despite multiple attempts, embolization was unsuccessful due to arterial spasm. The patient was successfully managed at emergency surgery by excision of the pseudoaneurysm sac and ligation of the left gastric artery.

**Conclusion** Bleeding from visceral artery pseudoaneurysms rarely manifests itself as *hemosuccus pancreaticus*. Most cases can be managed by angio-embolization. However, in patients with recurrent bleeding or failed embolization, emergency surgery is required.

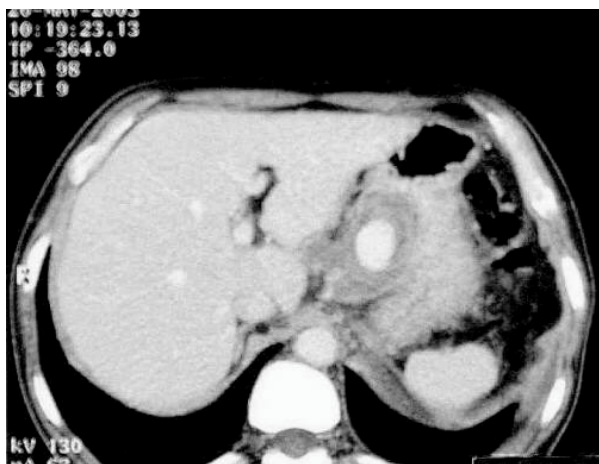
---

### **INTRODUCTION**

*Hemosuccus pancreaticus* is an unusual cause of gastrointestinal bleeding [1]. It usually occurs as a complication of chronic or acute pancreatitis, with bleeding from a pseudoaneurysm arising from the peripancreatic arteries [2, 3]. Splenic, gastroduodenal and pancreaticoduodenal arteries are the vessels commonly involved while pseudoaneurysm of left gastric artery are less common [4]. We present a rare case of *hemosuccus pancreaticus* (hemoductal pancreatitis) in a patient with alcoholic chronic pancreatitis. Due to technical reasons, transarterial embolization was unsuccessful and the patient had to undergo emergency surgery.

### **CASE REPORT**

A fifty-year-old male patient with alcohol-induced chronic pancreatitis, who had been medically managed for the past 3 years, presented having had a sudden onset of epigastric pain and melena for the previous 48 hours. On examination, he had pallor, tachycardia of 110 min<sup>-1</sup> and blood pressure of 100/60 mmHg. His abdominal examination did not reveal any abnormal findings except for epigastric and periumbilical tenderness. Nasogastric tube aspiration showed altered blood. His serum amylase was 35 IU/L

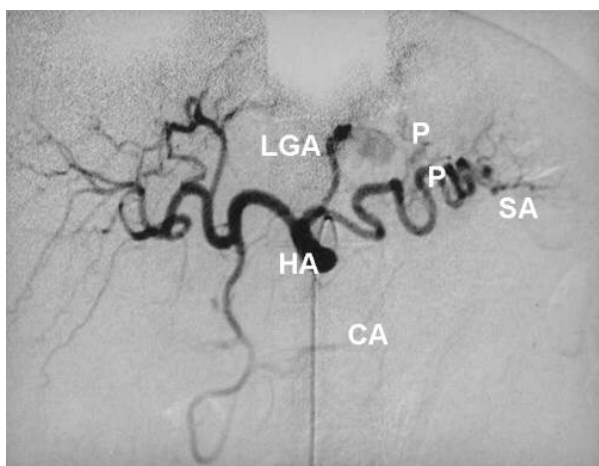


**Figure 1.** CT scan showing an enhanced cystic lesion in the arterial phase in relation to the lesser curve of the stomach and the superior border of the pancreas.

(reference range: 0-90 IU/L) while the serum hemoglobin was 7 g/dL (reference range: 14-18 g/dL). An emergency esophagogastroduodenoscopy was performed which revealed altered blood in the stomach with blood oozing from the ampulla of Vater. A computerized tomography scan of the abdomen showed a 3-cm pseudocyst abutting the lesser curvature of the stomach and the superior surface of the neck of pancreas. After a bolus injection of intravenous contrast, the pseudocyst showed uniform enhancement suggestive of a pseudoaneurysm (Figure 1). The patient was immediately shifted to the angiography suite and access was gained

through the right femoral artery. The celiac axis was cannulated and an arteriogram demonstrated a pseudoaneurysm with blush (suggestive of active bleed) arising from the left gastric artery (Figures 2 and 3). Repeated attempts of super selective cannulation of the left gastric artery failed due to arterial spasm. Due to the ongoing bleeding and hemodynamic instability, the patient had to undergo emergency surgery.

At surgery, the abdomen was entered by a midline incision. The lesser sac was entered by dividing the gastrocolic omentum. A 3-cm diameter pseudocyst was seen arising from the superior surface of the neck of the pancreas and abutting the lesser curvature of stomach. On de-roofing the pseudocyst, a pseudoaneurysm sac arising from the left gastric artery was identified. After proximal and distal control over the left gastric artery, the pseudoaneurysm was excised and the artery was transfixed both proximally and distally. The rest of the pancreas was atrophic without any stones, calcifications, or other pseudocysts; hence, no definitive procedure was done for chronic pancreatitis. A suction drain was placed near the pancreatic neck and the abdomen was closed. The duration of the procedure was two and half hours and blood loss was 600 mL. The patient received 4 units of blood in all (2 preoperatively and 2 intraoperatively). Postoperatively, the patient



**Figure 2.** Celiac axis angiogram showing the pseudoaneurysm from the left gastric artery. (P: pseudoaneurysm; LGA: left gastric artery; SA: splenic artery; HA: hepatic artery; CA: celiac axis)



**Figure 3.** Delayed celiac axis angiogram showing contrast blush suggestive of active bleeding from the pseudoaneurysm. (P: pseudoaneurysm; LGA: left gastric artery; SA: splenic artery; HA: hepatic artery; CA: celiac axis)

had a high amylase drain output from the peripancreatic drain which gradually decreased and stopped after 3 weeks. The patient was discharged after 10 days. He is on regular follow-up and continues to be abstinent and symptom-free on pancreatic enzyme supplements for the past 10 months.

## DISCUSSION

Chronic and acute pancreatitis are the most common cause of pseudoaneurysms arising from the peripancreatic arteries [3]. Pseudoaneurysms may result from either auto digestion of the peripancreatic artery or erosion of a pseudocyst into the artery and conversion of its cavity into a pseudoaneurysm [3, 5]. The splenic artery is the most common artery involved (60-65%) followed in decreasing order of frequency by gastroduodenal (20-25%), pancreaticoduodenal (10-15%), hepatic (5-10%) and left gastric arteries (2-5%) [6, 7, 8, 9]. The bleeding may manifest itself as *hemosuccus pancreaticus* or *wirsungorrhoea* (bleeding into the pancreatic duct), upper or lower gastrointestinal hemorrhage due to erosion into adjacent hollow viscus, intra-abdominal hemorrhage or as a sudden increase in the size of the pseudocyst [1, 3, 6]. Ruptured or bleeding pseudoaneurysms are associated with a mortality rate of 12-57% [6]. Although angiography is the gold standard for diagnosis and for characterizing the exact anatomical site, the pseudoaneurysm can invariably be demonstrated on a contrast enhanced CT scan [10]. In addition, the characteristic "to and fro sign" and bi-directional flow at the pseudoaneurysm neck may be demonstrated on ultrasound Doppler and can be diagnosed [11]. However, a thrombus inside the pseudoaneurysm and adjacent bowel gas often result in false negative findings on ultrasound Doppler and should not preclude a contrast-enhanced CT scan. In hemodynamically stable patients, angio-embolization gives good immediate results in 67-100% of cases [4, 12, 13, 14]. However, in patients who are hemodynamically unstable, where

angiography is unavailable or embolization is unsuccessful, emergency surgery is required. In addition, surgery is required in 17-37% patients with recurrent bleeding following embolization [15]. Also in the present case, contrast-enhanced CT demonstrated the pseudoaneurysm arising from the left gastric artery. However, due to the failure of the super selective cannulation of the left gastric artery due to arterial spasm and hemodynamic instability, the patient had to undergo emergency surgery. The choice between simple ligation of the offending vessel and excision of the pseudoaneurysm is largely dictated by anatomical location, previous surgery, associated pathology, hemodynamic stability and the risk of re-bleeding and procedure-related mortality [6, 7, 9, 14]. De-roofing the pseudoaneurysm, preferably after proximal and distal arterial control, evacuation of the clot and suture ligation of the affected artery is recommended at surgery. Most surgical series have a documented success rate of 70-85% with mortality rates of 20-25% and rebleeding rates of 0-5% [6, 7, 9, 14].

Thus, pseudoaneurysms of peripancreatic arteries may arise as a complication of acute or chronic pancreatitis and can result in life threatening hemorrhage. A diagnosis can usually be made on contrast-enhanced CT scan. Angiography provides the exact localization and the possibility of embolization which, in a significant number of patients, might be adequate treatment. Surgery is required when embolization fails or is unavailable, when there is recurrence of bleeding after embolization or in case of hemodynamic instability.

---

Received July 1<sup>st</sup>, 2004 - Accepted July 8<sup>th</sup>, 2004

**Keywords** Aneurysm, False; Embolization, Therapeutic; Pancreatitis

## Correspondence

Sorabh Kapoor  
Department of Gastrointestinal Surgery and

Liver Transplantation  
Room No. 1007, 1<sup>st</sup> floor, PC block  
All India Institute of Medical Sciences  
Ansari Nagar  
New Delhi  
India-110029  
Phone: +91-11.2659.3461  
Fax: +91-11.2658.8641  
E-mail: sorabhkapoor@hotmail.com

---

#### References

1. Bivins BA, Schatello CR, Chuang VP, Brady P. Haemosuccus pancreaticus (haemoductal pancreatitis). *Arch Surg* 1978; 113:751-3. [PMID 306809]
  2. Cahow CE, Gusberg RJ, Gottlieb LJ. Gastrointestinal haemorrhage from pseudoaneurysm in pancreatic pseudocysts. *Am J Surg* 1983; 145:534-41. [PMID 6601464]
  3. Maus TP. Pseudoaneurysm haemorrhage as a complication of pancreatitis. *Mayo Clin Proc* 1993; 68:895-6. [PMID 8371607]
  4. Stabile BE, Wilson SE, Debas HT. Reduced mortality from bleeding pseudocysts and pseudoaneurysms caused by pancreatitis. *Arch Surg* 1983; 118:45-51. [PMID 6848076]
  5. Stanley JC, Frey CF, Miller TA, Lindenauer SM, Child CG. Major arterial haemorrhage - A complication of pancreatic pseudocysts and chronic pancreatitis. *Arch Surg* 1976; 111:435-40. [PMID 1083231]
  6. Bender JS, Bouwman DL, Levison MA, Weaver DW. Pseudocysts and pseudoaneurysms: surgical strategy. *Pancreas* 1995; 10:143-7. [PMID 7716138]
  7. Heath DI, Reid AW, Murray WR. Bleeding pseudocysts and pseudoaneurysms in chronic pancreatitis. *Br J Surg* 1992; 79:281. [PMID 1637385]
  8. Smith RE, Fontanez-Garcia D, Plavsic BM. Gastrointestinal case of the day. Pseudoaneurysm of the left gastric artery as a complication of acute pancreatitis. *Radiographics* 1999; 19:1390-2. [PMID 10489192]
  9. Negi SS, Sachdev AK, Bhojwani R, Singh S, Kumar N. Experience of surgical management of pseudoaneurysms of branches of the coeliac axis in a North Indian hospital. *Trop Gastroenterol* 2002; 23:97-100. [PMID 12632981]
  10. Burke JW, Erickson SJ, Kellum CD, Tegtmeyer CJ, Williamson BRJ, Hansen MF. Pseudoaneurysms complicating chronic pancreatitis: detection with CT. *Radiology* 1986; 161:447-50. [PMID 3763917]
  11. Kahn LA, Kamen C, McNamara MP. Variable color Doppler appearance in pancreatitis. *AJR Am J Roentgenol* 1994; 162:187-8. [PMID 8273662]
  12. Mandel SR, Jagues PF, Mauro MA, Semofsky S. Nonoperative management of peripancreatic arterial aneurysms: a ten year experience. *Ann Surg* 1987; 205:126-8. [PMID 3492972]
  13. Gambiez LP, Ernst OJ, Merlier OA, Porte HL, Chambon JP, Quandalle PA. Arterial embolization for bleeding pseudocysts complicating chronic pancreatitis. *Arch Surg* 1997; 132:1016-21. [PMID 9301616]
  14. Waltman AC, Lucra PR, Athanasoulis CA, Warshaw AL. Massive arterial haemorrhage in patients with pancreatitis. Complimentary roles of surgery and trans catheter arterial embolization. *Arch Surg* 1986; 121:439-43. [PMID 3485420]
  15. Boudghene F, L'Hermine C, Bigot JM. Arterial complications of pancreatitis: diagnostic and therapeutic aspects in 104 cases. *J Vasc Interv Radiol* 1993; 4:551-8. [PMID 8353353]
-