CASE REPORT

Hemosuccus Pancreaticus

SUMATHI BAVANANDAM AND NIRMALA DHEIVAMANI
From Department of Pediatric Gastroenterology, Institute of Child Health & Hospital for Children, Chennai, India.

Correspondence to:
Dr Sumathi Bavanandam,
Senior Assistant Professor,
Department of Pediatric Gastroenterology,
Institute of Child Health & Hospital for Children, Chennai 600 008, India.
drbsumathi@rediffmail.com
Received: April 04, 2016;
Initial review: May 19, 2016;
Accepted: December 22, 2016.

Background: Gastrointestinal bleeding in children –has diverse etiologies. ***Case characteristics***: Two children (age 3y and 7y) with recurrent gastrointestinal bleeding. Computed tomography demonstrated features of chronic pancreatitis but no vessel abnormality. Conventional angiography revealed bleeding from gastroduodenal artery in both cases. ***Outcome***: Coil embolization of gastroduodenal vessels was performed, and there was no recurrence of bleeding. ***Message***: Hemosuccus pancreaticus is to be considered in children with chronic pancreatitis presenting with recurrent gastrointestinal bleeding and conventional angiography with coil embolization is helpful.

Keywords: *Angiography, Coil embolization, Hematemesis, Pancreatitis*.

Recurrent gastrointestinal bleeding is not uncommon in children, and has diverse etiologies. Hemosuccus Pancreaticus is defined as upper gastrointestinal bleed from papilla of vater via pancreatic duct, and is a rare cause of life-threatening gastrointestinal bleeding in children with either acute or chronic pancreatitis [1,2]. Endoscopy during an attack is often rewarding and conventional angiography has a therapeutic role.

CASE REPORT

Case 1: A 3-year-old boy presented with recurrent episodes of hematochezia and melena of varying severity, associated with abdominal pain and progressive pallor of 6 months duration requiring multiple blood transfusions. At one and half years of age, he was conservatively treated for acute pancreatitis presenting with ascites. Clinically he was anemic (Hb 7 g/dL), and undernourished (weight and height below 3rd centile). Systemic examination was normal. Provisional diagnosis of Hemosuccus pancreaticus was considered and investigated. Liver function tests, serum amylase, lipase, and renal function tests were normal. Upper endoscopy on three different occasions and colonoscopy on two occasions were not contributory. CECT abdomen with angiography showed features of chronic pancreatitis without any vessel abnormality. An emergency gastroscopy was done during the episode of hematochezia, which revealed active oozing of blood from ampulla suggestive of Hemosuccus pancreaticus. Conventional angiography of selective celiac axis/ superior mesenteric artery (done elsewhere) showed a leak in the gastroduodenal artery, and two coils (2mm × 2cm and 3mm × 3cm) were deployed (***Fig* 1a**). Child is asymtomatic on follow up for more than a year.

Case 2: A-7-year-old boy presented with repeated episodes of hematemesis and hematochezia associated with abdominal pain, requiring multiple transfusions. His weight and height for age was below -3SD. Clinical examination was unremarkable except for anemia. Investigations showed Hb 7 g/dL with severe microcytic hypochromic anemia. Liver functions tests, serum amylase, lipase and blood sugar were normal. Ultrasound abdomen with Doppler showed pancreatic ductal dilatation. CECT angiogram showed pancreatic duct dilatation with calcification without any vessel abnormality. He was hemodynamically stabilized. Upper gastrointestinal endoscopy on two occasions and colonoscopy with terminal ileoscopy once done were normal. During the hospital stay, following another bout of massive hematemesis, an emergency endoscopy was done, which showed active bleeding from the ampulla suggestive of Hemosuccus pancreaticus. Conventional angiogram showed a clot in the gastroduodenal vessel with abnormal hepatic artery, and coil embolization of the gastroduodenal artery with maestro wire was done (***Fig* 1b)**. The patient is on follow-up for one year, and is asymptomatic.

DISCUSSION

Hemosuccus pancreaticus is an unusual cause of potential life-threatening gastrointestinal bleeding occurring as a complication of chronic or acute pancreatitis [1,2]. Apart from chronic pancreatitis, other causes include tumours and vascular disorders [3]. Other terminologies are

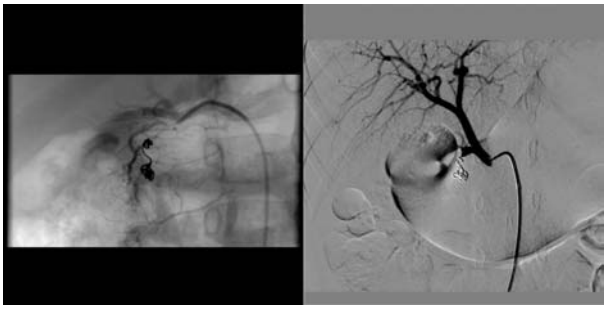

FIG. 1 *Conventional angiography showing coils deployed in the gastroduodenal branch (a) in first case; and in the aberrant gastroduodenal branch (b) in the second case.*

hemoductal pancreatitis, pseudohematobilia and Wirsungorrhagia. It was first reported in 1931 by Lower and Farrell [4,5]. Rupture of pseudoaneurysm caused by autodigestion of vessel wall by pancreatic enzymes or cyst induced pressure necrosis results, in bleeding. Splenic (60-65%), gastroduodenal (20-25%) and pancreaticoduodenal (10-15%) arteries are commonly involved while pseudoaneurysm of hepatic aretery (5-10%), and left gastric artery (2-5%) is less common [6-8]. Both of our cases had a leak in the gastroduodenal vessels. Clinical presentation includes anemia, recurrent gastrointestinal bleed, abdominal pain and normal liver and pancreatic enzymes. The diagnosis can be extremely difficult due to its rarity, anatomical location and intermittent symptoms requiring, repeated upper endoscopy, preferably during an acute episode of bleeding as observed in our study. Doppler ultrasonography, CT-angiogram or MR-angiogram can pick up pseudoaneurysm. Both of our children had leak from gastroduodenal artery which was picked by conventional angiography, (the gold standard test) that was followed by coil embolization. Arterial embolization can arrest the bleeding in 67-100% of cases and should be performed once patient is hemodynamically stabilized. In chronic pancreatitis, selective arterial embolization may leave a chance of recurrence due to remaining of diseased pancreas, adjacent to previously injured vessel, but this can be minimized with the use of super-selective angiocatheters in centers where technical expertise is available. Surgical treatment is indicated in uncontrolled hemorrhage or failed interventional procedures.

We conclude that hemosuccus pancreaticus can present as recurrent gastrointestinal bleeding in children with chronic pancreatitis. Conventional angiography with coil embolization are are suitable methods for diagnosis and treatment, respectively.

Contributors: SB: Case work-up, management of patient , drafting and editing the manuscript; ND: Case work-up, management of patient.
Funding: None; *Competing interest*: None stated.

REFERENCES

1. Bivins BA, Schatello CR, Chuang VP, Brady P. Hemosuccus pancreaticus (hemoductal pancreatitis): Gastrointestinal hemorrhage due to rupture of a splenic artery aneurysm into the pancreatic duct. Arch Surg. 1978;113:751-3.
2. Cahow CE, Gusberg RJ, Gottlieb LJ. Gastrointestinal hemorrhage from pseudoaneurysms in pancreatic pseudocysts. Am J Surg. 1983;145:534-41.
3. Han B, Song ZF, Sun B. Hemosuccus pancreaticus: a rare cause of gastrointestinal bleeding. Hepatobiliary Pancreat Dis Int. 2012;11:479-88.
4. Koren M, Kinova S, Bedeova J, Javorka V, Kovacova E, Kekenak L. Hemosuccus pancreaticus. Bratisl Lek Listy. 2008;109:37-41.
5. Sandblom P. Gastrointestinal hemorrhage through the pancreatic duct. Ann Surg. 1970;171:61-6.
6. Stabile BE, Wilson SE, Debas HT. Reduced mortality from bleeding pseudocysts and pseudoaneurysms caused by pancreatitis. Arch Surg. 1983;118:45-51.
7. Heath D, Reid AW, Murray WR. Bleeding pseudocysts and pseudoaneurysms in chronic pancreatitis. Br J Surg. 1992;79:281.
8. 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.