IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 25, Issue 1 Ser. 1 (January. 2026), PP 70-72
www.iosrjournals.org

Massive Upper Gastrointestinal Bleeding As The Initial Manifestation Of A Spontaneous Bulbo-Biliary Fistula In An Elderly Patient

F. Ait Iken, S. Hdiye, A.M. Kidani, A. Benhamdane, S. Mrabti, H. Seddik

Abstract
Background: *Bulbo-biliary fistulas are exceptionally rare complications of duodenal ulcer disease and are seldom revealed by massive upper gastrointestinal bleeding (UGIB). Their association with vascular complications such as gastroduodenal artery (GDA) pseudoaneurysm further increases mortality.*
Case presentation: *A 91-year-old man with chronic kidney disease and ischemic cardiopathy presented in hemorrhagic shock (BP 60/40 mmHg, Hb 4 g/dL) due to hematemesis and melena. Endoscopy revealed a circumferential duodenal bulb ulcer with Forrest IIa–IIb stigmata and a large adherent clot. A repeat endoscopy identified a 13-mm perforation with bile leakage, consistent with a bulbo-biliary fistula. CT angiography showed significant aerobilia and a 10 × 7 mm gastroduodenal artery pseudoaneurysm. Despite aggressive resuscitation and multidisciplinary evaluation, the patient developed refractory shock and died.*
Conclusion: *This case illustrates the rare but devastating association of bulbo-biliary fistula and GDA pseudoaneurysm revealed by massive UGIB. Early recognition and rapid multidisciplinary management are essential, though outcomes remain poor in unstable elderly patients.*

Date of Submission: 25-12-2025 Date of Acceptance: 05-01-2026

I. Introduction

Bulbo-biliary fistulas constitute a rare subtype of bilio-enteric fistulas, most commonly caused by cholelithiasis or chronic duodenal ulcer disease【1–3】. While they may present with abdominal pain, jaundice, or cholangitis, massive upper gastrointestinal bleeding is an exceptionally uncommon presentation.

Gastroduodenal artery pseudoaneurysms, although rare, are life-threatening and most often associated with chronic peptic ulcer disease, pancreatitis, or iatrogenic injury (4,5). Rupture can result in catastrophic hemorrhage.

The coexistence of these two entities is exceptionally rare, and few cases have been reported. We describe a fatal case of spontaneous bulbo-biliary fistula associated with a bleeding duodenal ulcer and GDA pseudoaneurysm in an elderly patient.

II. Case Presentation

A 91-year-old man with a medical history notable for ischemic cardiopathy and chronic kidney disease presented to the emergency department with profuse hematemesis, melena, and acute respiratory distress. He denied any history of peptic ulcer disease, NSAID intake, or biliary symptoms. On arrival, he appeared pale and in severe distress, with cold extremities and signs of circulatory failure. His blood pressure was critically low at 60/40 mmHg, and his heart rate was 98 beats per minute. Laboratory studies revealed a hemoglobin level of 4 g/dL, normal platelet count and INR, normal liver function tests, and markedly elevated creatinine (40 mg/L) and urea (2.30 g/L), consistent with chronic renal impairment.

He was immediately transferred to the shock room, where aggressive intravenous fluid resuscitation, norepinephrine infusion, blood transfusions, and high-dose intravenous proton-pump inhibitor therapy were initiated. Ceftriaxone 2 g/day was administered empirically due to his clinical instability. Despite these measures, his hemodynamic status remained precarious.

An urgent upper endoscopy was attempted, but visualization was severely impaired due to the stomach being filled with fresh blood, and the procedure was postponed. A second endoscopy performed 12 hours later revealed a large circumferential ulcer involving the duodenal bulb, with Forrest IIa–IIb stigmata and a large adherent clot on the anterior wall. The clot was intentionally left in place to avoid provoking further bleeding.

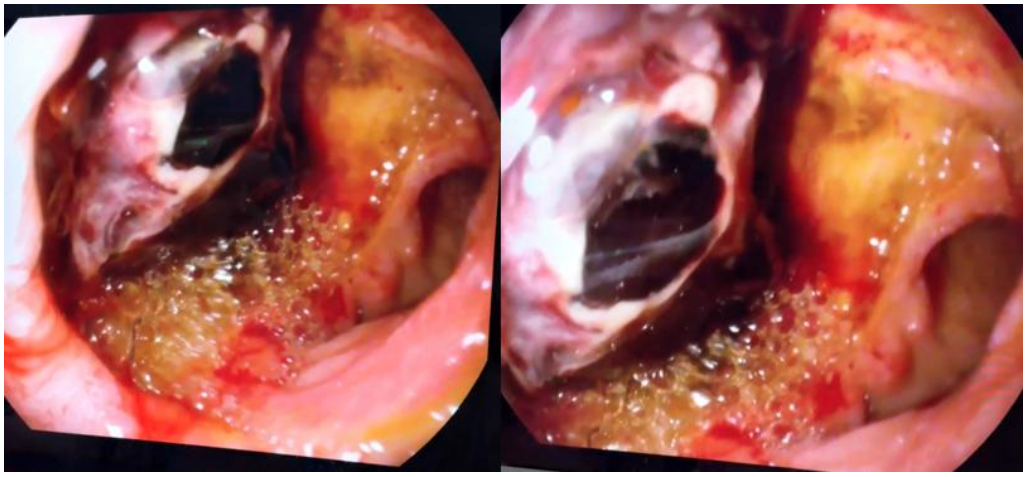

Figure 1. *Endoscopic view showing a circumferential duodenal bulb ulcer with a large adherent clot covering the anterior wall (Forrest IIa–IIb).*

A repeat endoscopy 48 hours later demonstrated a 13-mm perforation located just below the area previously covered by the clot. The opening was clearly visible, with active leakage of bile into the lumen, strongly suggestive of a spontaneous bulbo-biliary fistula resulting from ulcer penetration.

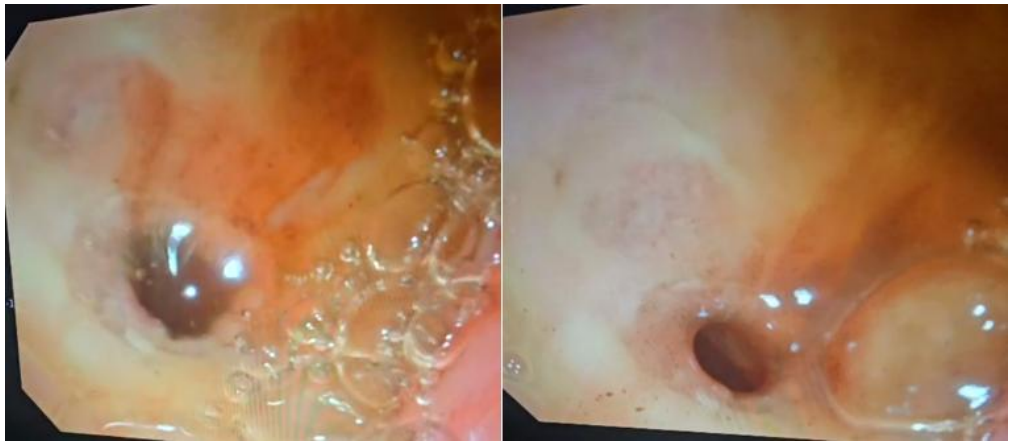

Figure 2. *Endoscopic appearance of the 13-mm perforation located just below the ulcer base, with visible bile leakage suggesting a bulbo-biliary fistula.*

A contrast-enhanced CT angiography of the abdomen was subsequently performed to assess the extent of the injury. The scan revealed significant aerobilia and a fistulous communication between the duodenal bulb and the biliary tree. It also identified a 10 × 7 mm pseudoaneurysm of the gastroduodenal artery, as well as a left ventricular intracardiac thrombus and bilateral dissection of the common iliac arteries. No active arterial contrast extravasation was identified during the CT scan.

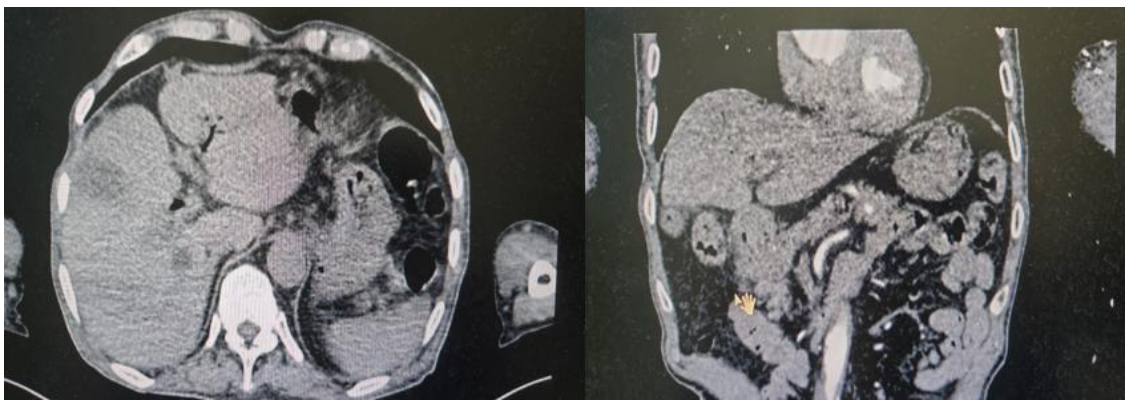

Figure 4. *CT angiography demonstrating marked aerobilia and the bulbo-biliary fistulous tract.*

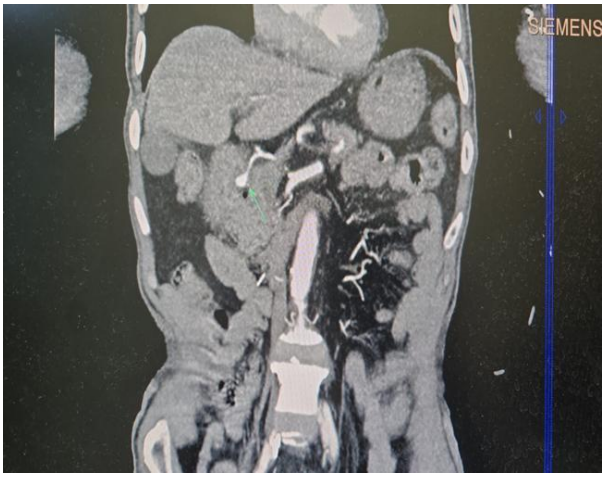

Figure 3. *CT angiography image showing the gastroduodenal artery pseudoaneurysm (10 × 7 mm).*

Shortly thereafter, the patient experienced two additional episodes of hematemesis, with rapid deterioration of consciousness and blood pressure. A multidisciplinary meeting was held: interventional radiology deemed embolization impossible due to the absence of active bleeding on imaging; vascular surgery concluded that no urgent intervention was feasible; and visceral surgery judged the patient too unstable to undergo operative management. Despite maximal resuscitation efforts, he progressed to refractory shock and died four hours later from nonrecoverable cardiopulmonary arrest.

III. Discussion

Spontaneous bulbo-biliary fistula is a rare complication of duodenal ulcer disease, whose incidence has decreased significantly with widespread PPI therapy and H. pylori eradication【1,2】. The absence of any risk factor such as NSAID use or prior ulcer disease renders this case particularly unusual.

Massive upper GI bleeding as the initial presentation is rarely reported in the literature【3】. In this case, ulcer erosion likely progressed deeply into the adjacent biliary tree, creating a fistulous communication. The Forrest IIa–IIb classification observed supports recent or ongoing bleeding.

The coexistence of a gastroduodenal artery pseudoaneurysm further complicates the clinical picture. Although uncommon, GDA pseudoaneurysms are well-known life-threatening complications of penetrating duodenal ulcers【4】. They are associated with rupture risk and mortality upward of 40–50%【5】. Absence of active contrast extravasation, despite ongoing bleeding, is described in up to one-third of cases and limits the possibility of embolization【6】, as occurred in our patient.

CT angiography remains a cornerstone in diagnosing fistulous tracts, aerobilia, and vascular abnormalities. Unfortunately, in hemodynamically unstable elderly patients with multiple comorbidities, both surgical and radiologic interventions may be contraindicated.

This case highlights the fulminant evolution that can occur when a duodenal ulcer erodes into both biliary structures and adjacent vasculature, making management extremely challenging and prognosis poor.

IV. Conclusion

Spontaneous bulbo-biliary fistula associated with a gastroduodenal artery pseudoaneurysm is a rare but catastrophic condition. Massive UGIB may be the initial manifestation. Early CT angiography and multidisciplinary management are essential, although in frail unstable patients, therapeutic options are limited and mortality remains high.

References

[1]. Glenn F, Reed C, Grafe WR. Biliary Enteric Fistula. Surg Gynecol Obstet. 1981;153(4):527-31.
[2]. Chan FK, Leung WK. Peptic Ulcer Disease. Lancet. 2002;360(9337):933-41.
[3]. Céspedes A, Sáenz R, Simón M, Sánchez J. Duodenal Ulcer Penetrating The Common Bile Duct: An Unusual Cause Of Upper GI Bleeding. Gastrointest Endosc. 1997;46:563-5.
[4]. Tessier DJ, Abbas MA, Fowl RJ, Et Al. Visceral Artery Aneurysm Rupture. J Vasc Surg. 2003;38:334-7.
[5]. Pasha SF, Gloviczki P, Stanson AW, Kamath PS. Splanchnic Artery Aneurysms. Mayo Clin Proc. 2007;82:472-9.
[6]. Barge JU, Lopera JE. Vascular Complications Of Pancreatitis: Role Of Interventional Therapy. Korean J Radiol. 2012;13(S1):S45-S55.