When to Suspect an Aortoenteric Fistulae

17

Anita Kumar, Maxine Le Saux, and Andrew C. Meltzer

Pearls and Pitfalls

- Aortoenteric fistulas are rare but life-threatening.
- This condition is often preceded by a "herald bleed."
- In patients with a history of prior abdominal aortic surgery, providers should consider aortoenteric fistulas as a cause of GI bleeding.
- CT angiography can diagnose aortoenteric fistulas.

Aortoenteric fistulas are rare but have a high mortality. Mortality ranges from 33% to 43%, and advanced age is a predictor of increased mortality [1, 2]. There are two types of aortoenteric fistulas, primary and secondary. About 10% of primary aortoenteric fistulas present with the classical triad of gastrointestinal bleeding, abdominal pain, and a pulsating mass [3]. Primary aortoenteric fistulas are caused by arteriosclerosis, aortic aneurysms, or aortic infections. Secondary aortoenteric fistulas are a complication of an aortic repair with a synthetic graft. Occasionally, an aortoenteric fistula can develop due to a retained esophageal foreign body [4].

A. Kumar, MD
George Washington University School of Medicine & Health Sciences, Department of Medicine, Division of Gastroenterology, Washington, DC, USA
e-mail: abkumar@mfa.gwu.edu

M. Le Saux · A. C. Meltzer, MD, MS (✉)
Department of Emergency Medicine, George Washington University School of Medicine & Health Sciences, Washington, DC, USA
e-mail: mlesaux@mfa.gwu.edu; ameltzer@mfa.gwu.edu

What Is a Herald Bleed?

A herald bleed refers to a minor intermittent GI bleed that precedes massive hemorrhage from an aortoenteric fistula. In 50% of aortoenteric fistula cases, patients present initially with a herald bleed. Primary fistulas are more likely than secondary aortoenteric fistulas to present with repetitive gastrointestinal bleeds such as herald bleeds as opposed to an initial massive hemorrhage [3, 5].

How Do We Diagnose an Aortoenteric Fistula?

Multiple case reports have described the challenges of diagnosing an aortoenteric fistula and the life-threatening nature of the disease [3]. Due to its low incidence, diagnosis is often delayed. Patients are often misdiagnosed with more common causes of GI bleeding or flank pain [6]. A history of prior aortic surgery and GI bleeding, particularly severe GI bleedings with no source of bleeding found on endoscopy, should raise suspicion for an aortoenteric fistula [3]. Since most aortoenteric fistulas occur at the level of the distal duodenum or the jejunum, they are beyond the reach of a standard upper endoscope.

When there is clinical suspicion, diagnosis is typically made by performing a CT scan with intravenous contrast [7]. CT scans are reported to have a high specificity but moderate sensitivity for aortoenteric fistulas [8]. The presence of intravascular contrast material in the GI tract is highly specific. In addition, the presence of periaortic ectopic gas in the context of GI blood loss is highly specific for aortoenteric fistula. Following diagnosis, an emergent surgical consultation is required for repair which can increase survival rates.

A. Graham, D. J. Carlberg (eds.), *Gastrointestinal Emergencies*, https://doi.org/10.1007/978-3-319-98343-1_17

Suggested Resources

- Aortoenteric fistula: Recognition and management – UpToDate.
- https://coreem.net/core/abdominal-aortic-aneurysm/.
- Primary Aortoduodenal Fistula: First you Should Suspect it – NCBI – NIH.

References

1. Batt M, Jean-Baptiste E, O'Connor S, et al. Early and late results of contemporary management of 37 secondary Aortoenteric fistulae. Eur J Vasc Endovasc Surg. 2011;41(6):748–57.
2. Busuttil SJ, Goldstone J. Diagnosis and management of aortoenteric fistulas. Semin Vasc Surg. 2001;14(4):302–11.
3. Saers SJF, Scheltinga MRM. Primary aortoenteric fistula. Br J Surg. 2005;92(2):143–52.
4. Zhang X, Liu J, Li J, et al. Diagnosis and treatment of 32 cases with aortoesophageal fistula due to esophageal foreign body. Laryngoscope. 2011;121(2):267–72.
5. Deijen CL, Smulders YM, Coveliers HME, Wisselink W, Rauwerda JA, Hoksbergen AWJ. The importance of early diagnosis and treatment of patients with aortoenteric fistulas presenting with herald bleeds. Ann Vasc Surg. 2016;36:28–34.
6. Simó Alari F, Molina González E, Gutierrez I, Ahamdanech-Idrissi A. Secondary aortoduodenal fistula and the unrecognised herald bleed. BMJ Case Rep. 2017;2017:bcr-2017–220186.
7. Sipe A, McWilliams SR, Saling L, Raptis C, Mellnick V, Bhalla S. The red connection: a review of aortic and arterial fistulae with an emphasis on CT findings. Emerg Radiol. 2017;24(1):73–80.
8. Hughes FM, Kavanagh D, Barry M, Owens A, MacErlaine DP, Malone DE. Aortoenteric fistula: a diagnostic dilemma. Abdom Imaging. 2007;32(3):398–402.