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Severe Upper Gastrointestinal Bleeding from Aortoenteric Fistula: A Late Complication of Esophagojejunostomy

Mehmet Ezelsoy, MD[1] Ali Coner, MD,[2] Okan Cicek, MD[3]

Departments of [1]Cardiovascular Surgery, [2]Cardiology, and [3]Radiology, Hakkari State Hospital, Hakkari, Turkey

INTRODUCTION

Aortoenteric fistula is an uncommon cause of upper gastrointestinal bleeding, which is life-threatening if not treated. This complication may occur even months to years after surgery [Mitchel 1995]. It is commonly observed in patients who have undergone previous aortic surgery and rarely occurs in patients with a history of gastrointestinal tract surgery [Brock 1953]. The diagnosis of aortoenteric fistula depends on a high level of clinical suspicion. Herein, we report a case of a 53-year-old man who underwent surgical treatment because of new-onset severe gastrointestinal bleeding that was related to an aortoenteric fistula.

BACKGROUND

A 53-year-old male patient presented to emergency services with a complaint of massive upper gastrointestinal tract bleeding. He had been operated on because of malign gastric neoplasm and total gastrectomy, esophagojejunostomy, and a Roux-en-Y operation had been performed. Contrast aortography and abdominal computed tomography were taken (Figure 1), however, there were some irregularities along the wall of the abdominal aorta in coronal planes, and a somewhat bondage formation was also detected between the abdominal aorta and the bowel segment in relation (Figure 2). Upper gastrointestinal tract endoscopy and sclerotherapy were performed by the Gastroenterology Department, but the patient's general status did not get better, his pulse was tachycardic, and his blood pressure was 70/40 mmHg. Laparotomy was planned and an incision was made from the old umbilical median incision site. During explorative laparotomy, a broad hematoma was seen around the Roux-en-Y anastomosis site. Hematoma was related to the abdominal aorta and unity of the anastomosis site was deteriorated markedly. After clamping of the abdominal aorta, it was repaired primarily. The deteriorated anastomosis site was then revised. The patient was discharged from the hospital on post-operative day 10.

DISCUSSION

Gastrointestinal bleeding occasionally meets with difficulty in diagnosis [Lau 1987]. Causes of obscure bleeding include neoplasms of the gastrointestinal tract, vascular anomalies, and aortoenteric fistula. Fistula formation between the aorta and alimentary tract is one of the causes of gastrointestinal bleeding. The diagnosis and the treatment of aortoenteric fistula are difficult and represent a big problem for vascular surgeons [Seeger 1999].

Aortoenteric fistula is defined as a communication between the aorta and any adjacent segment of the bowel. It is one of the causes of upper gastrointestinal bleeding that result in a life-threatening condition if not treated. Aortoenteric fistula is generally based on previous vascular surgeries or existing vascular aneurysms. Vascular originated aortoenteric fistulas can be classified into primary and secondary types according to the presence or absence of a prior history of aortic surgery or aortic stent implantations [Capoccia 2014]. Secondary aortoenteric fistulas are a well-known but uncommon cause of gastrointestinal hemorrhage. This complication often occurs months to years after the surgery. Secondary aortoenteric fistula develops after aortic

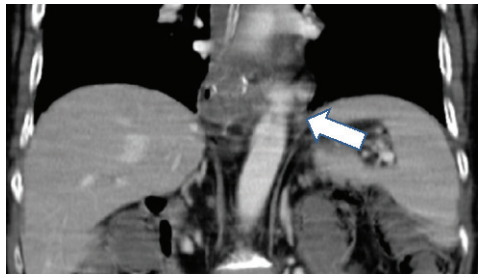

Figure-1: Abdominal aorta related with bowel segment shows wall irregularity..

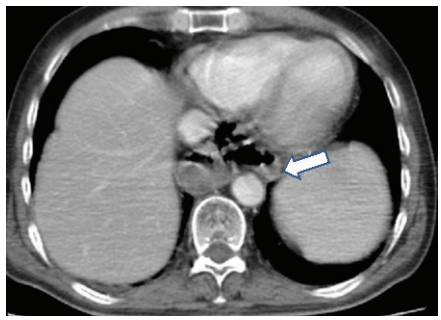

Figure 2. Anterior wall of abdominal aorta shows close relation or somewhat bondage with fistulized bowel segment..

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Correspondence: Mehmet Ezelsoy, MD, Istanbul Florence Nightingale Hospital, Cardiovascular Surgery Department, Sisli-Istanbul, Turkey (e-mail: mehmet_ezelsoy@hotmail.com).

reconstructive surgery and the incidence has been reported to be 0.4%-4% [Ekiz 2010]. There are occasional reports of aortoesophageal fistula after esophagectomy or esophageal stenting. However, aortoenteric fistula after gastrointestinal surgery is rarely seen [Gunji 2014].

As for the diagnosis of aortoenteric fistula, aortographic visualization of fistula formation is not helpful unless the fistula is large enough and bleeding is active. Computed tomography can demonstrate findings suggestive of the disease, such as pseudoaneurysm formation and periaortic ectopic gas collection [Yabu 1998]. Our case showed none of those signs. Lack of the imaging signs in our case may be explained with a primarily non-vascular origin of fistula. Beside this, aortography was not completely normal; there were subtle signs related to abdominal aorta wall irregularity and relation of the abdominal aorta with the adjacent bowel segment. However, differential diagnosis directs a physician to aortoenteric fistula depending on high clinical suspicion and a patient's medical history.

Conclusion

Because of the nonspecific nature of the clinical history and physical findings, diagnosis of aortoenteric fistula is difficult to make preoperatively. This rare but very serious complication mostly occurs after aortic surgery, but we want to note that aortoenteric fistula can occur in patients with massive gastrointestinal bleeding who have a previous alimentary tract surgery history.

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