Massive upper GI bleeding: A rare complication of Zenker’s diverticulum

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ABSTRACT

Bleeding from a Zenker’s diverticulum is rare. A 71-year-old man was urgently admitted with massive hematemesis. It was known that he had a Zenker’s diverticulum, but on emergency endoscopy, the source of bleeding was not detected due to large blood clots in the esophagus, hypo-pharynx and also into the tracheal-bronchial tree. Computerized tomography angiography demonstrated a blush of intravenous contrast arising from the diverticulum. The patient was operated upon urgently; the diverticule had a deep ulceration which was the source of the bleeding. The cause of the ulceration is unknown but it is possible that it was caused by the direct effect of an aspirin pill within the diverticule. A similar case with the same conclusion has been published in the past and since the use of aspirin has become common, especially in the elder population, we present this case report to highlight this possible life-threatening complication of Zenker’s diverticulum in patients receiving aspirin.

KEY WORDS: Aspirin, bleeding, mucosal ulceration, Zenker’s diverticulum

Bleeding from a Zenker’s diverticulum is rare and since documented cases in the literature are very few, no guidelines exist for the management of this potentially life-threatening condition. The pathophysiology of the ulceration is also unknown. We present a case of acute massive bleeding in a patient with Zenker’s diverticulum and discuss a possible mechanism for this rare complication.

Case History

A 71-year-old man was urgently admitted to our department of general surgery from the emergency room due to hematemesis. His medical background showed that he suffered from hypertension, ischemic heart disease, diabetes mellitus, chronic obstructive pulmonary diseases and dyslipidemia. His medication included aspirin. A few months before the present admission, he underwent a left hemicolectomy due to adenocarcinoma of the left colon, T2N1M 0. After the operation he was treated with chemotherapy with 5FU, leucoverin and oxaliplatinum. At the present admission he was still receiving chemotherapy. It was known that he had a Zenker’s diverticulum that caused regurgitation but the operation was postponed due to the chemotherapy.

At admission he was hemodynamically stable, but had recurrent hematemesis. An urgent gastroscopy was performed but the source of bleeding was not detected due to large blood clots in the esophagus, hypo-pharynx and also into the tracheal-bronchial tree. The possibility that the source of bleeding was the lungs could not be excluded so a CT angiography was performed and a blush of intravenous contrast was detected arising from the diverticulum which was prominent to the right side of the neck entering the upper mediastinum [Figure 1]. The patient was operated upon urgently. The neck was explored through an incision along the medial border of the right sternocleidomastoid muscle and the diverticule was dissected. The diverticule had a deep ulceration which was the source of the bleeding [Figure 2]. It was resected with a linear stapler and a cricopharyngeous muscle myotomy was performed. The postoperative course was uneventful with no further bleeding and he was discharged on the third postoperative day.

Discussion

Pharyngeal pouches (Zenker’s diverticulum) occur most...
commonly in elderly patients. The etiology is physiological due to a structural abnormality of the cricopharyngeus muscle. The typical symptoms are regurgitation, aspiration, chronic cough and dysphagia with weight loss. As the pouch enlarges the symptoms become more severe.\(^{(1)}\) Bleeding from a Zenker’s diverticulum is exceedingly rare and only a few case reports exist in the literature. In the present case a CT angiography was diagnostic since it showed extravagation of intravenous contrast media, while the gastroscopy could not demonstrate the bleeding source since there were blood clots in the esophagus, in the diverticulum and also in the tracheal-bronchial tree. The etiology and pathophysiology of ulceration within the diverticle is unknown. Diverticulitis due to stasis of food has been proposed as the causing factor. A previous report suggested that the ulceration could be caused by aspirin pills which theoretically could enter the pouch and stay with continuous contact with the mucosa. As in our case all the reported patients had also received aspirin.\(^{(2-4)}\) Aspirin usually causes mucosal injury in the lower part of the upper gastrointestinal region due to inhibition of prostaglandins, but also due to prolonged contact of the acidic pill with the mucosa.\(^{(2)}\) In the present case, no signs of diverticulitis were found during the operation or in the histopathology of the specimen. However, a deep mucosal ulceration was found, further supporting a possible mechanism of direct damage of the mucosa by the acid effect of aspirin.

As the use of aspirin has become common, especially in the elder population, we present this case report to highlight this possible life-threatening complication of Zenker’s diverticulum in patients receiving aspirin.

References
