Acta Scientific Gastrointestinal Disorders (ISSN: 2582-1091)

Volume 8 Issue 1 January 2025

Research Article

Dabigatran Induced Oesophageal Keratosis Presenting as Bleeding Carcinoma Cuniculatum: A Case Report

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DOI: 10.31080/ASGIS.2025.07.0686

Received: December 12, 2024

Published: December 09, 2024

Abstract

Background: Dabigatran is a direct oral anticoagulant (DOAC) that acts by blocking thrombogenic activity and preventing thrombus formation. However, dabigatran induced oesophageal mucosal injury is often neglected as one potential complication of dabigatran. Here we present a rare case report of an elderly Asian male presenting with dysphagia, diagnosed as dabigatran induced keratosis with oesophageal mass extending into stomach revealing carcinoma cuniculatum on histopathology.

Case Presentation: A 62-year-old Asian male came to hospital with history of dysphagia and sticking sensation in the throat for 2 years and recent onset recurrent fall in haemoglobin with black coloured stools. The patient was a known case of type II diabetes for 25 years (on regular medication) and peripheral vascular disease, had stent placement in the left superficial femoral artery 10 years back and was on dabigatran since then. Endoscopy showed significant ulcerations with whitish flakes starting from the 29 cm and extends till the GE junction. At 32 cm, there was a large fungating lesion causing luminal compromise. Fungating lesion was extending up to the fundus with an area with adherent clot over it. As the clot was removed, a spurter was noted which was coagulated with APC probe. Patient was planned for resection of the mass. Intraoperatively a 3cm x 3cm ?? oval shaped mass lesion of oesophageal origin extending into lesser curvature of the stomach was found. Partial gastrectomy with resection of the mass lesion was done. Post operatively patient developed pulmonary complications which were managed conservatively with supportive care.

Conclusion: Our case highlights the importance of awareness on the part of the physician about the esophagitis as a possible complication of dabigatran and reporting Carcinoma cuniculatum of oesophagus extending into stomach which is an extremely rare and often indolent cancer.

Keywords: Case Report; Dabigatran; Esophagitis; DIE (Dabigatran Induced Esophagitis)

Abbreviations

DIE: Dabigatran Induced Esophagitis

Background

Dabigatran is thrombin inhibitor used as an anticoagulant medication widely to prevent strokes caused by atrial fibrillation, deep vein thrombosis, and pulmonary embolism [1]. However, it can possibly cause gastrointestinal side effects such as oesophageal keratosis or esophagitis. There has been previously reported few cases (total 8 cases) of dabigatran-induced esophagitis [2-10] and much more rarely reported carcinoma cuniculatum of oesophagus extending into stomach. Hereby, we are reporting a rare manifestation of the remorsely rare disease.

Case Presentation

A 62-year-old gentleman presented with dysphagia and sticking sensation in the throat for 2 years. The dysphagia was gradually progressive in nature and was associated with significant weight loss. There was no history of fever, vomiting, regurgitation. The patient was a known case of type II diabetes for 25 years (on regular medication) and peripheral vascular disease, had stent placement in the left superficial femoral artery 10 years back and was on dabigatran since then. He was also a known smoker for 25 years, had quit smoking 10 yeas back after the diagnosis of peripheral vascular disease.

The patient was first evaluated for dysphagia in March 2024. Endoscopy was done which showed oesophageal circumferential exudate and ulcerated lesions (?? infectious esophagitis- candida) (Figure 1a, b).

The histopathology report was consistent with oesophageal candidiasis and was negative for dysplasia/malignancy and was treated with antifungals but in vain (Figure 2).

PET CT of the patient was done on 01/04/24.

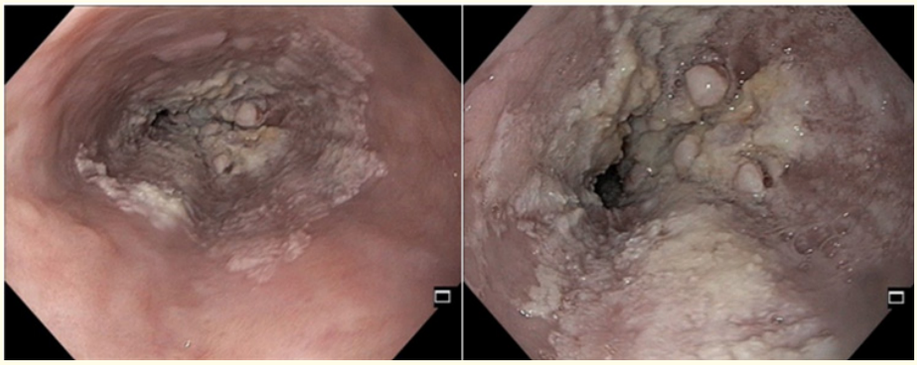

Figure 1a,b: Oesophageal circumferential lesions.

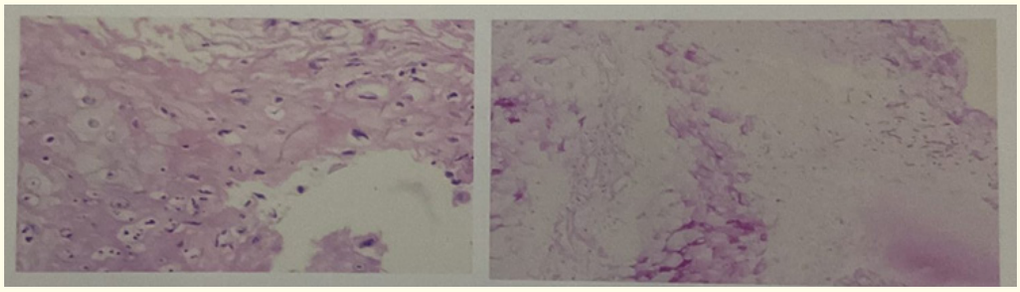

Figure 2: The patient had persistent dysphagia for which further evaluation were done.

FDG avid heterogeneously enhancing asymmetric circumferential mural thickening with resultant mass formation in gastroesophageal junction, adjacent lower thoracic esophagus and gastric cardia infiltrating periesophageal fat-Likely primary malignant disease.

Mildly FDG avid and non FDG avid sub centimetric mediastinal nodes (SUV max 3.5) likely inflammatory.

Mildly FDG avid multiple perigastric (along left gastric vessels) and hepatic artery lymph nodes, largest measuring 6 mm (SAD) (SUVmax 3.8) likely post-infective sequelae.

UGI endoscopy was repeated on 06/04/24 which showed significant ulcerations with whitish flakes starting from the 29 cm and extends till the GE junction. At 32 cm, there was a large fungating mass causing luminal compromise (Figure 3a). Thickening of the cardia of the stomach was also seen. (Figure 3b)

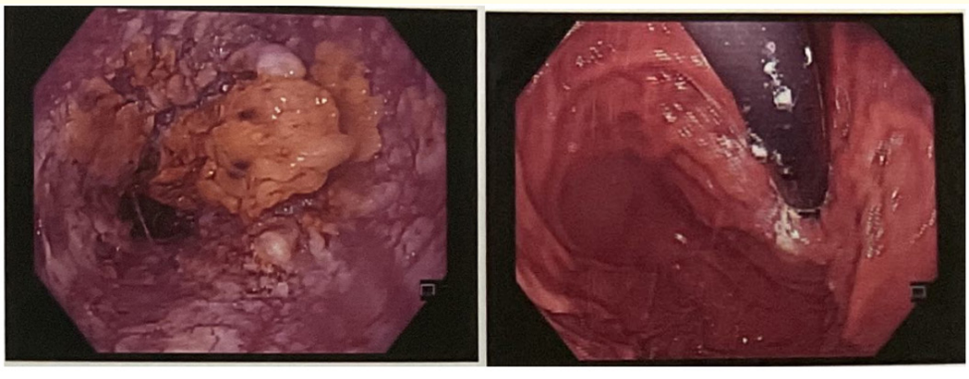

Figure 3a Figure 3b

Figure 3: Large fungating mass causing thickening of the cardia of the luminal compromise stomach.

Biopsy was suggestive of Chronic active gastritis and hyperplastic keratinized squamous epithelium. No dysplasia or invasive foci seen (Figure 4). PAS stain for fungus was negative.

For past one month the patient started having recurrent bouts of malena with anaemia for which multiple blood tranfusions were done.

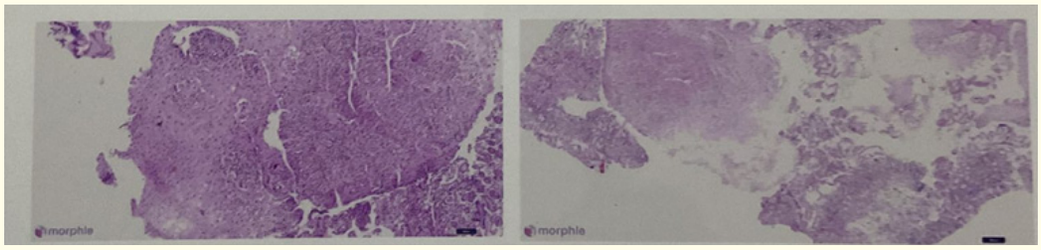

Figure 4: Hyperplastic keratinized squamous epithelium.

The patient presented with sudden drop in haemoglobin (10gm to 6.5gm) and hypotension on 16/07/2024.

UGI endoscopy was repeated which showed previous oesophageal lesions (Figure 5a). Ahead, the esophagus lumen was distorted and extends up to the fundus. There was a fungating lesion extending up to the fundus (Figure 5b) with an area with adherent clot over it. As the clot was removed, a spurter was noted (Figure 5c) which was coagulated with APC probe. (Figure 5d)

CECT chest of the patient was done which showed distal oesophagus irregular wall thickening and heterogenous post contrast enhancement with narrowed lumen. Also, intraluminal mass along the lesser curvature of the stomach was found. There was Ill-defined continuity of right lateral wall of esophagus with adjoining collapse consolidation in medial basal segment of right lung and mild right sided pleural effusion likely esophageal perforation (Figure 6a,6b).

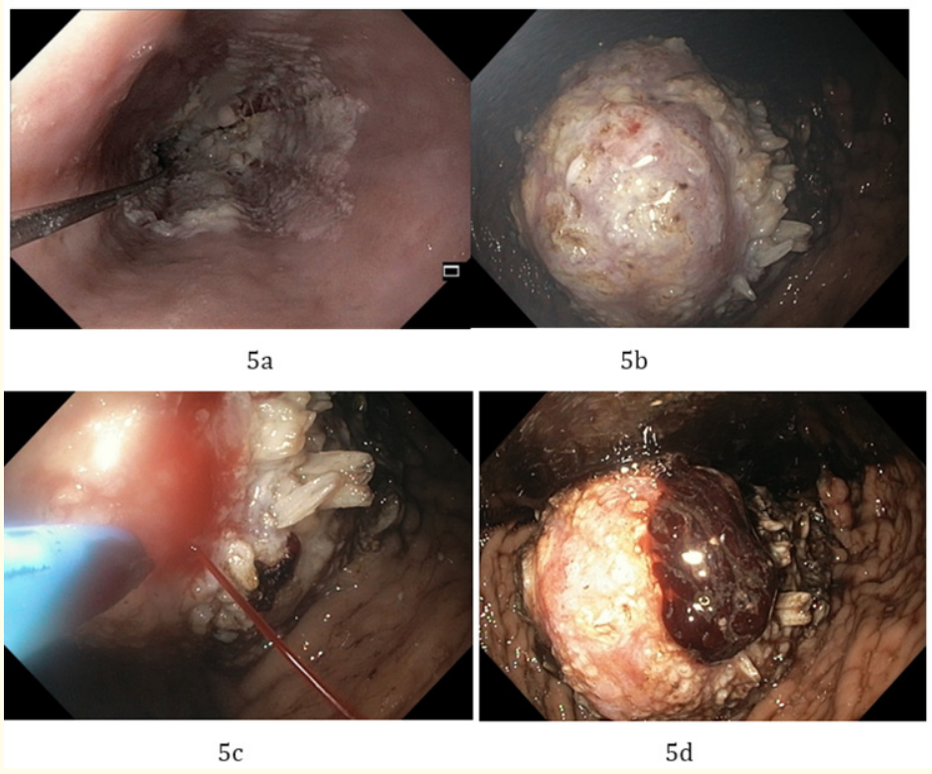

Figure 5: a: Oesophageal leision, b: Fungating lesion in fundus of stomach, c: Spurter at fundus of stomach, d: Spurter coagulated with APC probe.

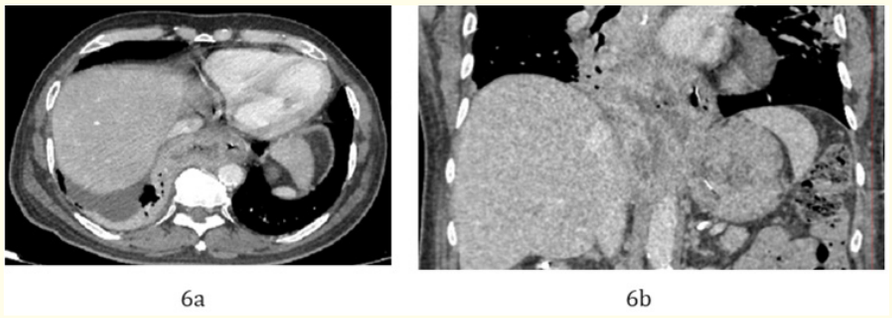

Figure 6: CECT chest of the patient showing Ill-defined continuity of right lateral wall of oesophagus.

In view of recurrent upper GI bleed from the gastric leision the patient was planned for definitive resection of the gastric leision on 24 /07/24.

Intraoperatively dense adhesions were found along the lower border of the oesophagus with the diaphragm. A 3cm x 3cm ?? oval shaped mass lesion of oesophagus involving lesser curvature of the stomach was found. Partial gastrectomy with resection of the mass was done (Figure 7).

Post operatively patient developed pulmonary complications which were managed conservatively with supportive care.

HPE findings of the patient were suggestive of Esophageal Carcinoma Cuniculatum (Rare group of extremely well differentiated squamous cell carcinoma) (Figure 8).

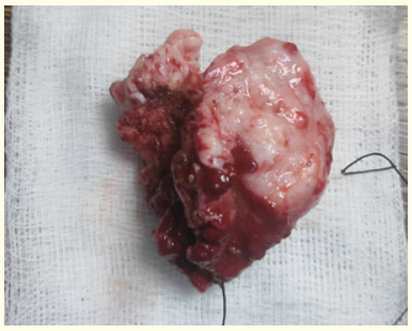

Figure 7: Resected gastric mass.

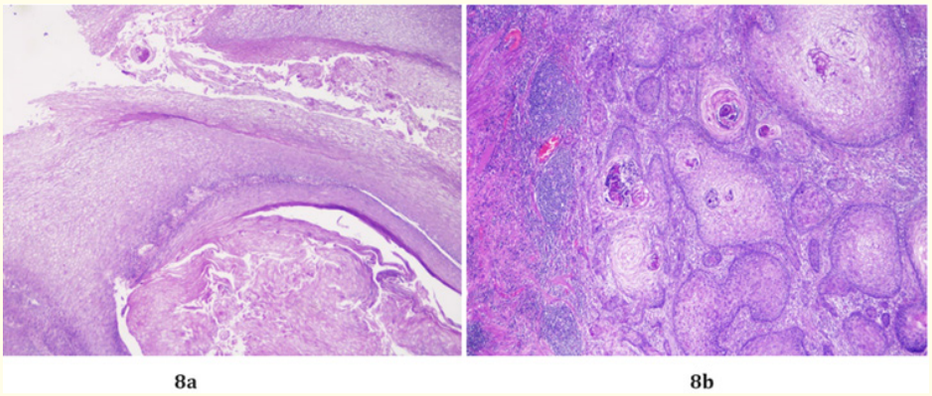

Figure 8: a: Squamous Burrow and nests, b: Invasive squamous islands with keratinization.

Discussion and Conclusion

Dabigatran is a direct oral anticoagulant (DOAC) that acts by blocking thrombogenic activity and preventing thrombus formation. It is recommended to reduce the risk of stroke and systemic embolism in patients with non-valvular AF as the level of effort B by the American Heart Association [11]. Dabigatran contains tartaric acid as an excipient. The prolonged exposure of this drug to the oesophageal mucosa can lead to DIE.

DIE is a rare complication that has occasionally been reported [2-10]. The endoscopic manifestations in the oesophagus are longitudinal sloughing casts in the middle and the lower one third. The usual manifestations are chest pain, heart burn but the patient can present with odynophagia/dysphagia. Development of oesophagitis after dabigatran administration is usually linked to decreased water intake, lying recumbent after drug intake or having previous GERD symptoms. The above factors were associated with the increased drug contact with the oesophageal mucosa [12].

The previous reported cases of DIE usually showed a short history of dabigatran ingestion [13,14]. The reported case had DIE diagnosed eight years after the diagnosis of dabigatran ingestion. In view of the above case report the patient should be evaluated for DIE if chest or abdominal symptoms appear after dabigatran regardless of the duration.

Declarations

- **Ethics approval and consent to participate:** Not applicable.
- **Consent for publication:** Proper consent was taken as per the guidelines for usage of patient material in the data and publications.
- **Availability of data and materials:** Not applicable.
- **Competing interests:** The authors declare that they have no competing interests.
- **Funding:** Nil
- **Authors' contributions:** The case was evaluated and operated under the guidance of Dr. Rajesh Kapoor and Dr Kapil Kumar, Department of GI and Hepato-pancreatico- biliary surgery, Jaypee Hospital Noida.
- **Acknowledgements:** Not applicable.

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