An unusual finding after surgical treatment of corrosive oesophageal stricture

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Cite this article as: *Mohan P, Anand S. An unusual finding after surgical treatment of corrosive oesophageal stricture. Turk J Gastroenterol 2019; 30: 109-11.*

QUESTION

Two patients, a 28-year-old male and a 40-year-old female, presented with difficulty in swallowing solid food, 6 months following surgery for corrosive injury to oesophagus. Upper gastrointestinal endoscopy findings revealed a narrowing just below the cricopharynx with the inability to negotiate the scope beyond the stricture. Under fluoroscopic guidance, attempted passage of guide wire through the opening resulted in it traversing only up to the mid-oesophagus. Hence, a contrast oesophagogram (Figure 1a, b) was obtained in both cases as shown below.

What is your diagnosis?

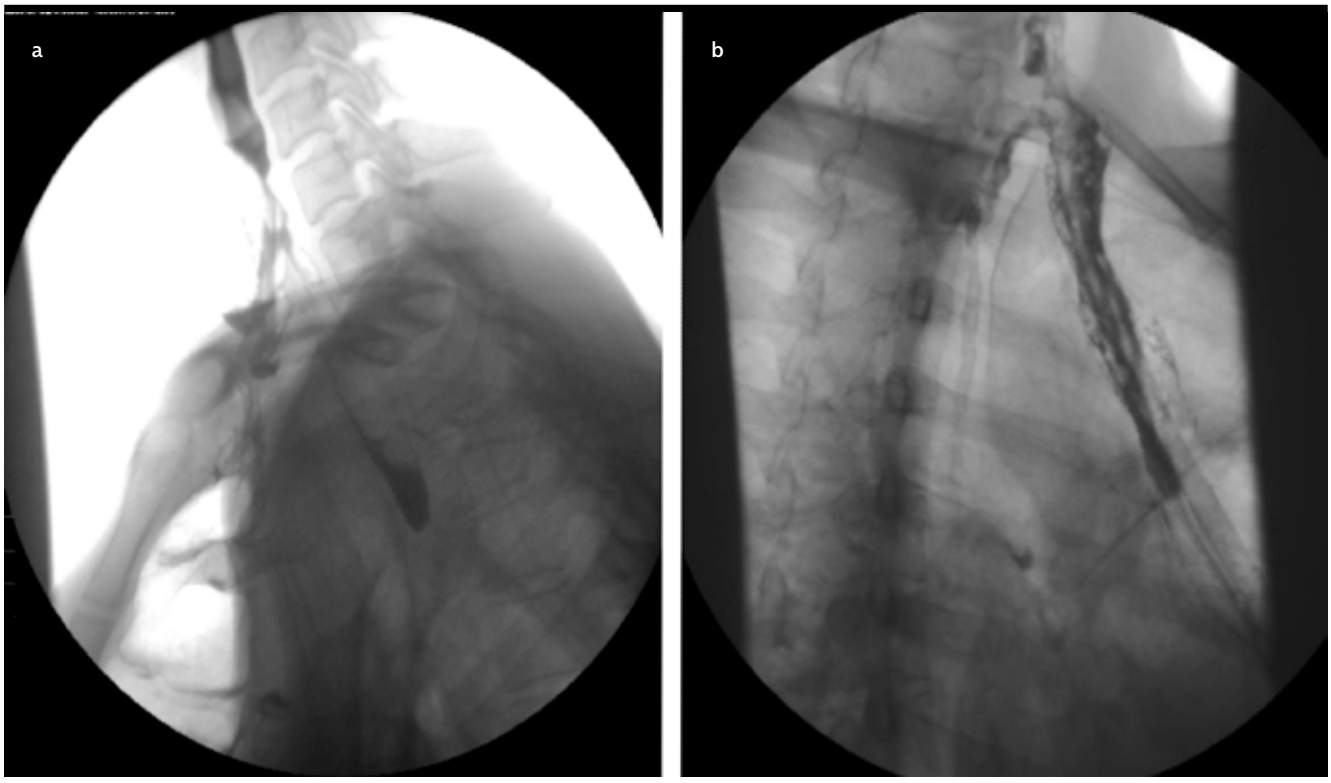

Figure 1. a, b. (without labels) Contrast oesophagogram of two patients presenting with dysphagia after surgery for corrosive oesophageal injury

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Received: ***July 2, 2018*** *Accepted:* ***August 8, 2018*** *Available online date:* ***December 18, 2018***

DOI: ***10.5152/tjg.2018.18407***

ANSWER

Contrast oesophagogram (Figure 1a, b) shows the narrowing of the anastomotic site (yellow arrows) with the contrast entering the colon conduit (yellow arrow heads) and excluded oesophagus (black arrows). This finding beyond the stricture was not recognized during gastroscopy because of non-negotiable stricture. The diagnosis of stricture of colo-oesophageal anastomosis along with spontaneous opening of the excluded oesophagus was considered.

Multiple attempts were made using fluoroscopy for the successful negotiation of the guide wire into sub sternal colonic segment (anterior) and for avoiding prevertebral (posterior) plane as shown in Figure 2a. Both the patients underwent bougie dilation up to a diameter of 15 mm using Savary Gilliard dilators. Post-dilatation endoscopy (Figure 2b) demonstrates two openings, the colo-oesophageal anastomosis (yellow arrow) and the opening to the excluded oesophagus (black arrow).

DISCUSSION

The surgical management of corrosive oesophageal stricture involves bypass or resection of a scarred oesophagus and replacement with a conduit (1,2). The ideal oesophageal substitute remains debatable. Colon is preferred in patients with a scarred stomach where a longer conduit is required (2). The posterior mediastinal route is used for early reconstruction while the retrosternal route is preferred later in corrosive oesophageal strictures. The dissection becomes technically challenging and carries a risk owing to adhesions surrounding the damaged oesophagus (3). Hence, retrosternal colonic bypass leaving behind scarred oesophagus is simple in comparison with the technique involving the resection of oesophagus (4). However, complications such as mucocele formation, gastroesophageal reflux, and malignant transformation because of leaving behind the oesophagus have been reported (1,4). We report in the above-mentioned two patients a rare finding of opening of the excluded scarred oesophagus following stricture of colo-oesophageal anastomosis.

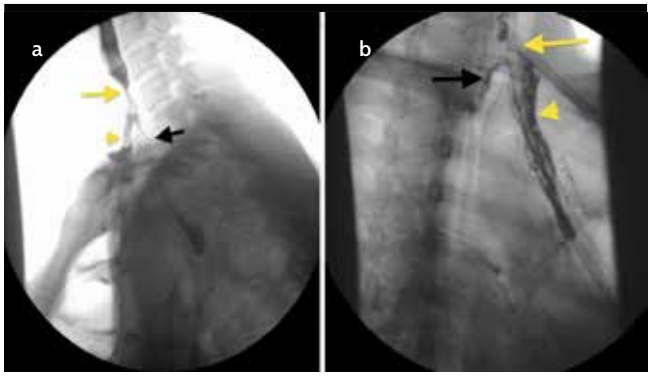

Figure 2. a, b. (with labels) Contrast oesophagogram of two patients shows narrowing of anastomotic site (yellow arrows) with contrast entering into the colonic conduit (yellow arrow heads) and excluded oesophagus (black arrows)

Anastomotic strictures are late postoperative complications reported in 3%-46.2% of patients undergoing colonic reconstruction following oesophagectomy (5). Endoscopic dilation using balloon or bougie dilators are safe and effective for anastomotic oesophageal strictures. However, these strictures tend to recur and often require frequent and multiple dilations.

The unusual finding of an opening of excluded oesophagus in our cases resulted in difficulty and confusion during the endoscopic assessment and treatment of the stricture. Failure recognizing this finding in the absence of contrast oesophagogram would have resulted in dilation of the excluded oesophagus. It is crucial for the endoscopist to be familiar with post-surgical anatomy. The endoscopic assessment of oesophageal substitute is challenging because of the technique of creation of a side-to-side anastomosis in a more anterior location. The importance of recognition of the direction of passage of guide wire during fluoroscopy cannot be over-emphasized in such a situation. It is critical to appreciate the anterior passage of wire (sub-sternal) in contrast with the normal posterior route (pre-vertebral plane) during endoscopic dilation for avoiding complications.

In conclusion, non-anatomical placement of reconstruction in corrosive oesophageal strictures creates confusion

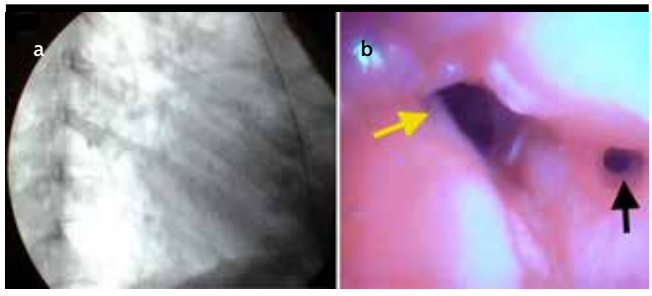

Figure 3. a, b. Fluoroscopy shows anterior passage of guide wire into sub sternal colonic segment; post-dilatation endoscopy demonstrates two openings, colo-oesophageal anastomosis (yellow arrow) and opening to the excluded oesophagus (black arrow)

when planning endoscopic treatment for post-surgical complications. It is important for gastroenterologists to understand the imaging and endoscopic anatomy following colon transposition to perform therapeutic procedures with minimal complications.

Informed Consent: Written informed consent was obtained from the patient who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – P.M., S.A.; Design – P.M., S.A.; Supervision – P.M.; Data Collecting and/or Interpretation - P.M., S.A.; Analysis and/or Interpretation – P.M.; Literature Searach – P.M., S.A.; Writing Manuscript – P.M., S.A.; Critical Review - P.M., S.A.

Conflict of Interest: The authors have no conflict of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

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