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Esophageal Submucosal Tumor-A Red Flag in Patients Receiving Thoracic Aortic Aneurysmal Stent-Graft

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A 75-year-old man presented to our hospital with symptoms of fever, abdominal pain, intermittent hematemesis and melena for 2 days. The patient underwent stent-graft placement for a thoracic aortic aneurysm (TAA) 6 months prior to this presentation. Seven days ago, he suffered from dyspepsia; an upper gastrointestinal (UGI) endoscopy indicated a submucosal tumor (Fig. 1A, arrow) in the middle portion of the esophagus. Endoscopic biopsy was then conducted, which disclosed inflammatory cells. Upon hospitalization, laboratory data indicated marked anemia with a hemoglobin of 6 g/dL. Chest radiography revealed a widening of the mediastinum and a TAA stent-graft (Fig. 1B, arrow) in place without unusual mediastinal air. Emergent UGI endoscopy was performed due to intermittent hematemesis and anemia. It demonstrated an ulcerative hole located in the middle portion of the esophagus (Fig. 1C, arrow indicates the ulcerative hole). Due to fever of an unknown focus, contrast-enhanced computed tomography (CT) of chest was done in order to rule out any occult infectious process associated with the stent-graft, showing a gas-forming peri-stent-graft abscess formation with posterior mediastinal extension (Fig. 1D, pre-contrast CT; Fig. 1E early-phase CT; Fig. 1F, reconstructed image; Fig. 1E to F, white star indicates the abscess and white arrow indicates the nasogastric tube). The radiographic and endoscopic findings were consistent with an aortoesophageal fistula formation (AEF). The patient was put on broad-spectrum antibiotics, but succumbed to sepsis before emergent operation.

Aortoesophageal fistula is a rare complication after thoracic endovascular aortic repair. The rate of incidence is around 1.9%.[1)] AEF formation after thoracic endovascular aortic repair is probably associated with the erosion of the esophageal wall by an infected stent-graft, pressure necrosis caused by the direct compression of a self-expanding stent-graft, or a compromised blood supply of the esophageal wall.[1)2)] Presentations of AEF include new-onset fever, chest pain or symptoms of UGI bleeding, such as hematemesis or melena.[3)] Contrast-enhanced CT is a useful imaging modality if AEF is suspected clinically. When a new heterogeneous mass with some air bubbles inside is found on the CT, subsequent UGI endoscopy can be performed to confirm the diagnosis. Endoscopic findings vary from submucosal tumor, ulceration, small defect of esophagus or direct visualization of a stent-graft. The mortality rate of AEF is extremely high if treated conservatively.[3)] Surgical intervention is challenging and important for the management of this devastating complication.

References

1. Eggebrecht H, Mehta RH, Dechene A, et al. Aortoesophageal fistula after thoracic aortic stent-graft placement: a rare but catastrophic complication of a novel emerging technique. *JACC Cardiovasc Interv* 2009;2:570-6.
2. Chiba D, Hanabata N, Araki Y, Sawaya M. Aortoesophageal fistula after thoracic endovascular aortic repair diagnosed and followed with endoscopy. *Intern Med* 2013;52:451-5.
3. Muradi A, Yamaguchi M, Kitagawa A, et al. Secondary aortoesophageal fistula after thoracic endovascular aortic repair for a huge aneurysm. *Diagn Interv Radiol* 2013;19:81-4.

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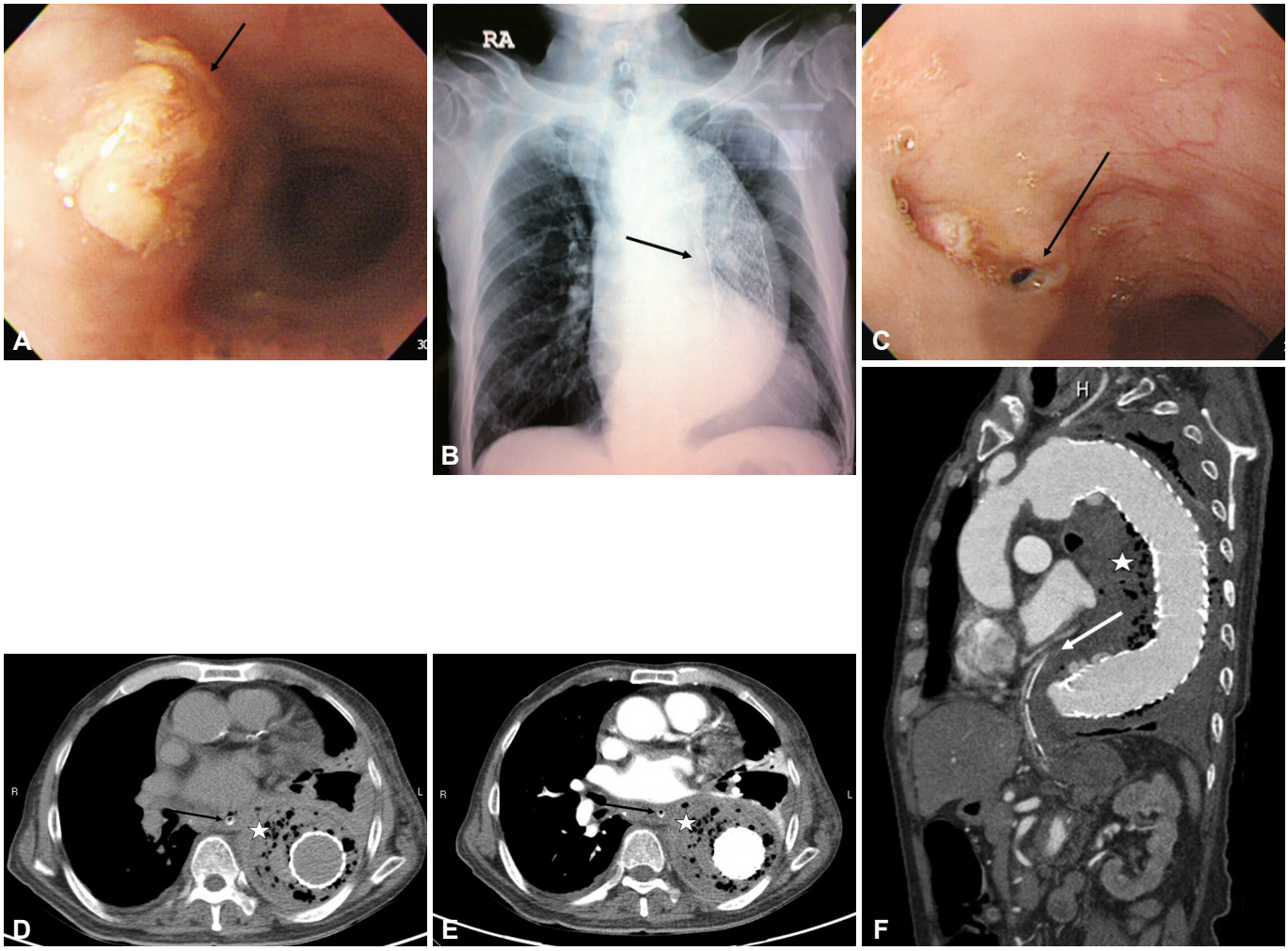

Fig. 1.

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