



## Unexpectedly large aortoesophageal fistula inconsistent with CT imaging due to the thrombus working as the tamponade

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**Summary** A 69-year-old woman with a history of graft replacement of descending aortic aneurysm was referred to our hospital due to massive hematemesis with shock status. Additionally, the deterioration of respiratory status made us start the management under mechanical ventilation. The emergent gastrointestinal endoscopy by a general practitioner showed ulcer-like lesion of the upper esophagus and arterial bleeding. A contrast-enhanced computed tomography showed thoracic aortic aneurysm surrounded by low density mass and contrast medium protruding from the aneurysm. The findings suggested that thoracic aortic aneurysm perforated into esophagus and made an aortoesophageal fistula. Hemodynamic deterioration rapidly progressed and she passed away 4 days after her hospitalization.

Autopsy showed that a new thoracic aortic aneurysm arose from the proximal site of the graft. The aneurysm ruptured to esophagus with  $6.0 \text{ cm} \times 5.0 \text{ cm}$  sized fistula. The fistula was filled with a large thrombus. The large thrombus filling with the fistula worked as the tamponade and prevented her from the fatal exsanguinations and sudden death. The mechanism of the sentinel bleeding and the fatal exsanguinations known as Chiari's triad was revealed in our report.

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## 1. Case report

A 69-year-old woman, who had a history of graft replacement of a descending aortic aneurysm 8 years previously was referred to our hospital

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**Fig. 1** Enhanced axial computed tomography on admission. The arrow shows contrast medium protruding from the aneurysm. The esophagus could not be recognized and the bronchus deviated from original to anterior portion due to the compression of the aneurysm.

due to massive hematemesis. Her awareness was semicoma. She was in a cold sweat and cyanotic. Initial vital signs showed blood pressure of 66 mmHg/45 mmHg, pulse rate of 143 per minute, and a respiratory rate of 25 per minute. Because the respiratory status worsened gradually, management was initiated under mechanical ventilation after endotracheal intubation at an emergency department.

The laboratory findings showed hemoglobin level of 6.5 g/dl, white blood cell count of 12,410/ml with 72.4% neutrophils, platelet count



Fig. 2 Photograph from the aspect of the esophagus incised longitudinally at autopsy. The arrow shows the  $6.0 \, \text{cm} \times 5.0 \, \text{cm}$  sized aortoesophageal fistula.

of  $6.4/ml \times 10^4/ml$ , blood urea nitrogen of 21 mg/dl, creatinine of 1.32 mg/dl, and potassium of 4.2 mEq/l.

Emergent gastrointestinal (GI) endoscopy by a general practitioner showed ulcer-like lesion of the upper esophagus and arterial bleeding. A contrast-enhanced axial computed tomography (CT) on admission showed thoracic aortic aneurysm surrounded by low density mass and contrast medium protruding from the aneurysm (Fig. 1). The esophagus could not be recognized due to the compression of the aneurysm. Moreover, the bronchus deviated to anterior portion for the same reason. These findings suggested that thoracic aortic aneurysm perforated into esophagus and made an aortoesophageal fistula. During her hospitalization, intensive treatment continued under mechanical ventilation with blood transfusion.



Fig. 3 Photograph of the fistula at autopsy. The arrow shows a large thrombus recognized within the fistula.

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