Ruptured Aortic Pseudoaneurysm: An Unusual Cause of Recurrent Lightheadedness and Cough

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CASE PRESENTATION

A 60-year-old man with end-stage renal disease was referred to the emergency room for hypotension during dialysis. He had a history of hypertension, atrial fibrillation, heart failure with preserved ejection fraction, and recurrent methicillin-sensitive *Staphylococcus aureus* (MSSA) mitral endocarditis with embolic stroke. He had recently undergone surgical mitral repair complicated by ascending aortic pseudoaneurysm with a surrounding stable hematoma (3.8 x 6.7 x 9.3 cm) (Figure 1), for which he was planning elective surgery.

At the time of presentation, the patient only complained of a several-day history of episodic lightheadedness. He was hypotensive (90/50 mm Hg) and tachycardic (114 beats/min).

A computed tomography angiography showed a ruptured pseudoaneurysm with "swirl sign" (Figure 2 A). The hematoma had enlarged (9.6 x 12.2 x 14 cm), compressing the mediastinal vessels and trachea with right ventricular strain (Figure 3). There was active blood flow extravasating into the hematoma (Figure 2). Hemoglobin was at baseline (9.9 g/dL). The patient underwent pseudoaneurysm resection and aortic reconstruction. Cultures of the pseudoaneurysm grew MSSA. He was treated with cefazolin and his symptoms resolved.

Ascending aortic pseudoaneurysms are uncommon but potentially fatal.[1,2] Typical findings include intense chest pain and hypotension, and survival depends on early diagnosis and surgery. This case is notable for its atypical, relatively indolent course and low bleeding rate despite the swirl sign. Furthermore,

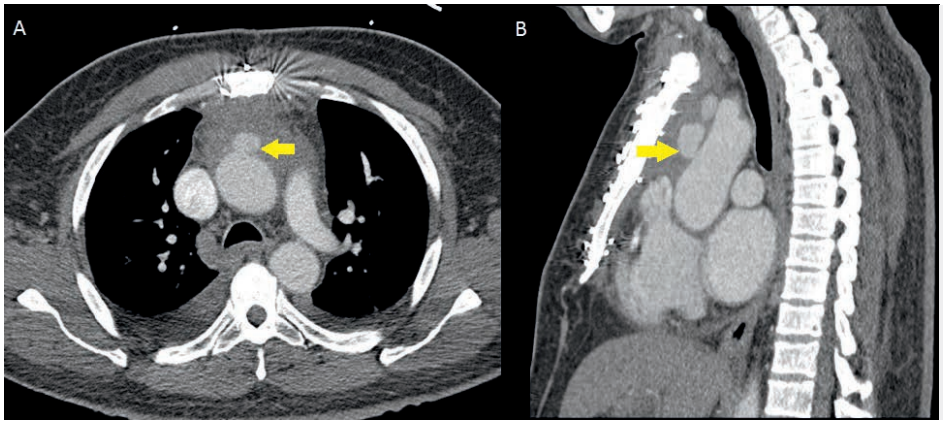

Figure 1.
Axial (A) and sagittal (B) views of the ascending aortic pseudoaneurysm with stable hematoma at the time of diagnosis. The measurements of the hematoma were 3.8 x 6.7 x 9.3 cm, and measurements of the pseudoaneurysm sac were 1.7 x 2.6 x 2.7 cm (arrow).

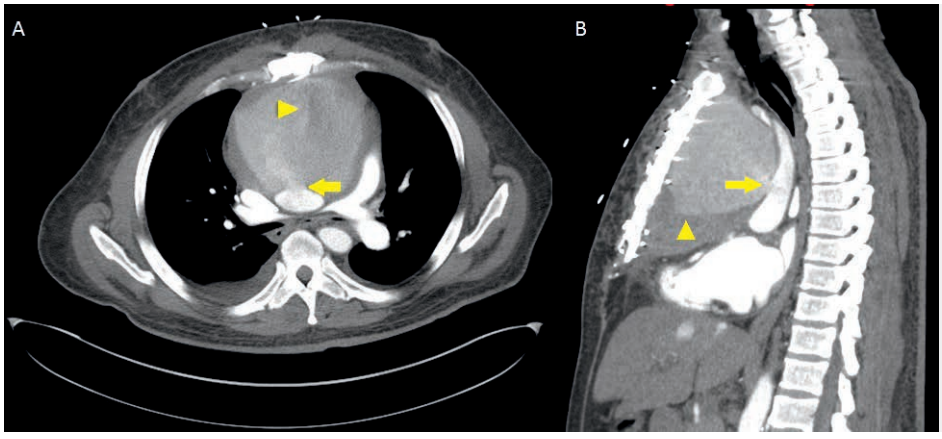

Figure 2.
Transversal (A) and sagittal (B) views of the ascending aortic pseudoaneurysm at the time of presentation; note the jet of active contrast extravasation from the ascending aorta into the hematoma (arrow) and the swirl sign (arrow head).

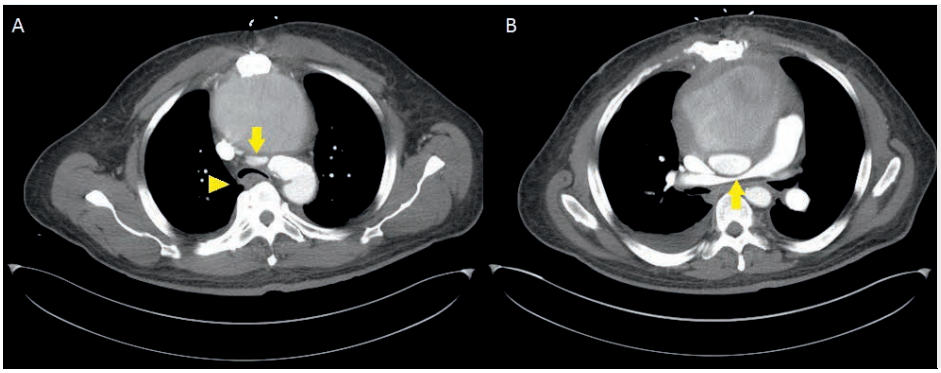

Figure 3.
Ruptured ascending aortic pseudoaneurysm with contained mediastinal hematoma. The measurements of the hematoma were 9.6 x 12.2 x 14 cm. (A) Mediastinal hematoma compressing on the innominate artery (arrow) and trachea (arrow head). (B) Mediastinal hematoma compressing on the pulmonary trunk, decreasing its diameter to 4 mm (arrow).

compression of mediastinal structures seems to have been the cause of his unusual symptoms rather than hypovolemia or pain.

This case illustrates how ruptured aortic pseudoaneurysm can present with benign symptoms. Physicians should be highly suspicious when evaluating patients with an atypical constellation of symptoms after cardiothoracic surgery. Timely imaging can help to promptly diagnose the condition and plan interventions.

Conflict of Interest Disclosure:
The authors have completed and submitted the *Methodist DeBakey Cardiovascular Journal* Conflict of Interest Statement and none were reported.

Keywords:
ascending aorta, pseudoaneurysm, mediastinal hematoma, cardiopulmonary bypass

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