

## Huge Coronary Artery Aneurysms Presenting as Mediastinal Masses

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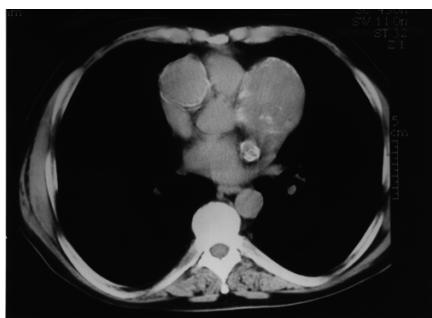
Key words: coronary artery ectasia, mediastinal mass, thymoma, pericardial cyst

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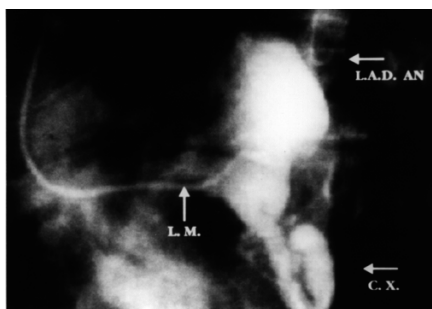
We describe an asymptomatic patient who presented with two large mediastinal masses on computed tomography, which proved to be giant aneurysms of the coronary arteries.

### Case Description

A 59-year-old asymptomatic male underwent a routine pre-employment chest X-ray that demonstrated a mass in the region of the left hilum. The physical examination and laboratory data were normal. Chest X-ray showed fullness in the left hilum with possible calcification. A ventilation-perfusion lung scan was normal. A pre- and postcontrast helical CT scan demonstrated two mediastinal masses. The larger one, 6x8 cm, located lateral and to the left of the main pulmonary artery and the ascending aorta, showed peripheral calcification. The smaller one, 4x5 cm, was seen lateral and to the right of the main pulmonary artery and the ascending aorta. Contrast material filled the posterolateral portion of the larger mass, but not the mass on the right. A calcified blood vessel 1.5 cm in diameter was identified posterior to the left-sided mass and was presumed to be a dilated left coronary artery [Figure A]. Magnetic resonance imaging with intravenous administration of gadolinium demonstrated enhancement in the posterolateral part of the left mass. Coronary arteriography demonstrated ectasia of the left coronary artery with alternating areas of dilatation and narrowing, a large aneurysm of the left main coronary and circumflex artery, as well as a giant aneurysm originating from the left anterior descending artery [Figure B]. The right coronary artery was dilated and tortuous. Transesophageal echocardiogram supported the findings described above. Transcranial Doppler, a



[A] Chest CT demonstrates two large central mediastinal masses with peripheral calcification.



[B] Coronary angiography. The left coronary artery in left anterior oblique-caudal demonstrates an enlarged left main artery and circumflex artery. A giant aneurysm originating at the first part of the left anterior descending artery can be seen.

duplex examination of the carotid arteries, and ultrasound of the abdomen were normal.

### Comment

In the patient reported here we found severe ectasia of the coronary arteries, a huge partially thrombosed aneurysm of the left coronary artery, and ectatic changes in other portions of the coronary arteries. Mild dilatation was also seen in the pulmonary arteries. There was no evidence, however, of atherosclerotic changes or aneurysms in other arteries in the body.

By definition, a coronary artery aneurysm is characterized by an enlarged segment, at least 2 cm long and twice the diameter of normal adjacent segments of the largest coronary artery at angiography [1]. Coronary aneurysms, present in 0.2% in a large series of patients undergoing coronary angiography [2], have been described as congenital lesions in patients with dissection of the aorta, in patients with atherosclerosis, and in cases of Kawasaki, Takayasu's disease and Behçet's syndrome [3-5].

The differential diagnosis of anterior mediastinal masses includes thyroid masses, thymoma, teratoma, lymphoma, tortuous or dilated blood vessels, pericardial cyst or tumor, parathyroid tumor, mediastinitis, hernia, and others. In our patient there was no evidence of atherosclerotic disease, neither were there symptoms or signs supporting the diagnosis of one of the above-mentioned conditions or Kawasaki disease — at least not in his adult life. The peripheral calcifications observed in the mediastinal masses suggest the possibility that the aneurysms had been formed in the past.

Our case demonstrates that coronary artery aneurysms should be included in the differential diagnosis of mediastinal masses. Although chest CT, MRI and transesophageal echocardiogram can raise the possibility of the existence of a coronary artery aneurysm, a definite diagnosis can only be made on coronary arteriography.

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## Case Communications

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