

# Giant Left Atrium Causing Dysphagia

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**A** 65-year-old woman with atrial fibrillation (AF) and a mechanical mitral valve (MV) for rheumatic mitral stenosis presented with weight loss, lack of appetite, difficulty swallowing, and left pelvic pain. Physical examination was notable for cachexia, elevated jugular venous pressure, and decreased right-lower-lobe breath sounds. The patient's international normalized ratio was 3.3. A 12-lead electrocardiogram revealed rate-controlled AF. A chest radiograph showed massive cardiomegaly, and a probable giant left atrium (LA) touching the right lateral wall of the chest (Fig. 1). A computed tomogram (CT), obtained to exclude gastrointestinal malignancy, showed a left ovarian cyst with no torsion or rupture. The CT incidentally revealed marked splaying of the carina (Fig. 2A), compression and partial atelectasis of the lung's right lower lobe (Fig. 2B), and partial compression of the esophagus against the mid-thoracic spine (Figs. 2B and C), all caused by severe LA enlargement (dimensions, 15 × 19 × 17 cm). A 2-dimensional echocardiogram showed a massively dilated LA, a normally functioning mechanical MV, and a normal-size left ventricle (ejection fraction, 0.35) (Fig. 3).

## Comment

A normal LA is 2.7 to 3.8 cm in diameter.<sup>1</sup> By definition, a giant LA touches the right lateral side of the chest wall.<sup>2</sup> Giant LA can be caused by chronic rheumatic MV disease, chronic AF, and chronic left ventricular failure.<sup>3</sup> It is usually the result of chronic pressure and volume overload from rheumatic MV disease. Weakening of the atrial wall by rheumatic pancarditis also contributes.<sup>4</sup> Massive LA dilation causes dysphagia from esophageal compression, compression atelectasis of the lungs, or hoarseness because of left laryngeal nerve palsy. Between chest CT and magnetic resonance imaging

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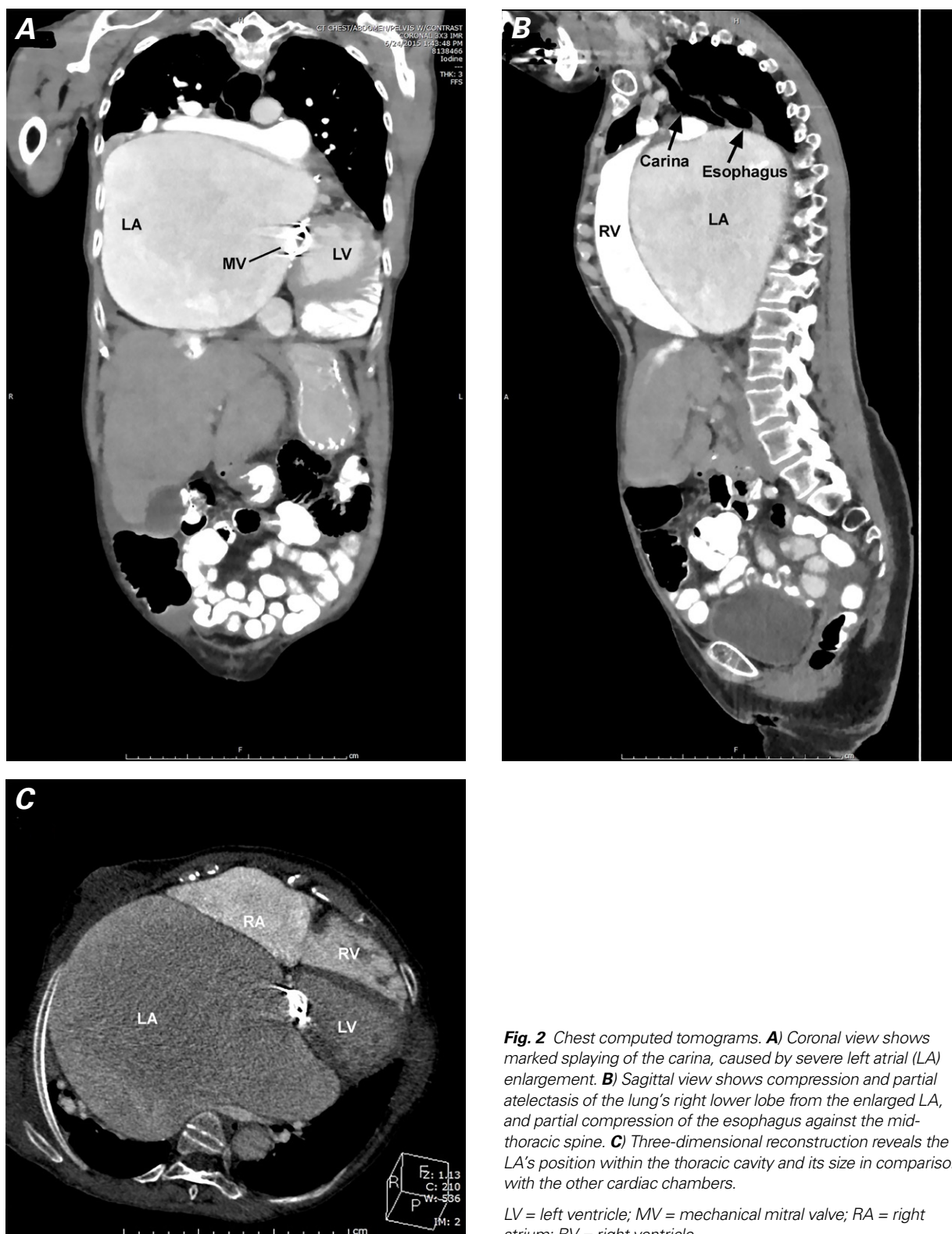
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**Fig. 1** Chest radiograph (posteroanterior view) shows massive cardiomegaly and a probable giant left atrium touching the right lateral wall of the chest.

LA = left atrium; MV = mechanical mitral valve

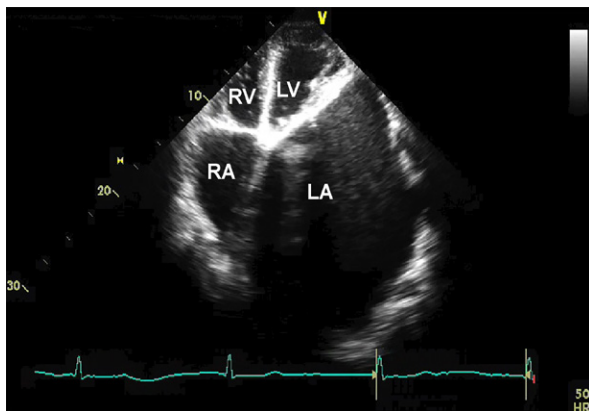


**Fig. 2** Chest computed tomograms. **A)** Coronal view shows marked splaying of the carina, caused by severe left atrial (LA) enlargement. **B)** Sagittal view shows compression and partial atelectasis of the lung's right lower lobe from the enlarged LA, and partial compression of the esophagus against the mid-thoracic spine. **C)** Three-dimensional reconstruction reveals the LA's position within the thoracic cavity and its size in comparison with the other cardiac chambers.

LV = left ventricle; MV = mechanical mitral valve; RA = right atrium; RV = right ventricle

(MRI)—the imaging methods of choice—MRI better aids evaluation of LA volume and its relationship with adjacent structures. When giant LA is symptomatic, surgical plication is the treatment of choice.<sup>5</sup> Dysphagia

caused by extrinsic compression of the esophagus can result from vascular anomalies, such as an aneurysmal thoracic aorta; however, a severely dilated LA is a rarely considered cause of dysphagia.



**Fig. 3** Two-dimensional transthoracic echocardiogram (apical 4-chamber view) shows the atria and ventricles, with shadowing from the mechanical mitral valve. The left atrium is severely dilated. The accompanying motion image additionally shows normal mitral valve function and a normal-size left ventricle (ejection fraction, 0.35).

LA = left atrium; LV = left ventricle; RA = right atrium; RV = right ventricle

Supplemental motion image is available for [Figure 3](#).

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