

# High-riding superior pericardial recess: A diagnostic pitfall

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## To the Editor:

Among pericardial recesses, the superior pericardial recess is a semicircular space encircling ascending aorta, which has anterior, right-sided, and posterior parts in relation to the aorta. The described recess may variably show superior extension and can have a triangular, round, or ovoid shape. A high-located superior pericardial recess was first defined by Choi<sup>1,2</sup>.

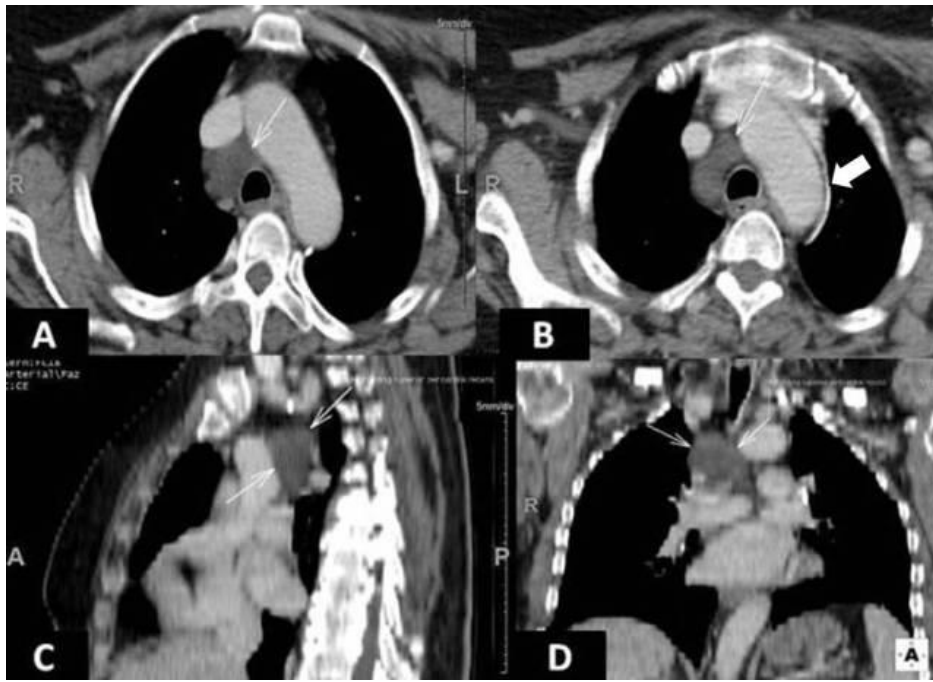
A 67-year-old woman referred from an outside center after thoracic trauma for thoracic computerized tomography (CT) examination was found to have a right paratracheal cystic lesion. Examination of the CT study to characterize the lesion revealed that the cystic lesion, which was anatomically related to the posterior part of the proximal regions of the ascending and arcus aortae and which extended anteriorly from the right lateral side of the aorta, was a high-located superior pericardial recess. There was additionally a left superior intercostal vein.

Pericardial recesses are typically found incidentally on thoracic CT study. The pericardial space is a potential space between the parietal and visceral layers of serous pericardium. It normally contains a slight amount of serous fluid (15-25 mL). The superior aortic recess is an upward extension of the transverse sinus of the pericardial

space and is seen in 47% of individuals who are free of any pericardial disorder. The superior pericardial recess is the posterior partition of the superior aortic recess and is usually seen immediately distal to the aortic arch<sup>1,2</sup>. Choi et al<sup>2</sup> diagnosed a high-located superior pericardial recess in 6 (2%) of 276 patients. The prevalence reaches 6.6% with thin slice CT study<sup>1</sup>.

It may reach more superiorly especially in the right paratracheal region. It may be confused with pericardial fluid, mediastinal masses like bronchogenic cysts when distended, or a paratracheal hypodense lymph node (particularly in the case of a previously known malignancy). Visualization its continuity with a typical superior aortic recess level usually suffices for making an accurate diagnosis<sup>1-3</sup>.

Advances in CT technology have allowed a better detection of pericardial recesses. Treatment is unnecessary. In order to avoid unnecessary invasive diagnostic procedures, particularly in trauma cases, it is of paramount importance not to confuse this pseudolesion with other mediastinal masses. Every radiologist should have a thorough knowledge of the pericardial anatomy and should be familiar with the appearances of pericardial recesses for making its differential diagnosis from other mediastinal structures.



**Figure 1:** Contrast-enhanced (A, B) axial, (C) sagittal, and (D) coronal computed tomography images on mediastinal windows show a hypodense structure compatible with high-riding superior pericardial recess (thin arrows) in the right paratracheal area along the course of the ascending aorta. In addition, left superior intercostal vein is seen (B, thick arrow).

## REFERENCES

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