Interesting image

Appearance of thoracic aortic aneurysm on myocardial perfusion imaging

Aspecto de aneurisma de la aorta torácica en un estudio de perfusión miocárdica

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A R T I C L E   I N F O

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We present the case of a 65-year-old man with dyspnea and chest discomfort referred for dipyridamole myocardial perfusion scintigraphy. 99mTc-sestamibi cardiac gated SPECT images showed an irreversible hypoperfusion in the mid-ventricular portion of anteroseptal wall, a suspicious reversible hypoperfusion in the apical slices of inferolateral wall, and left ventricle dilatation with an ejection fraction of 40%. In addition, a decreased radiotracer uptake was seen in the posterior region of the left hemithorax in the rotating (cine) images of the stress and rest myocardial perfusion SPECT (Fig. 1). Also, the review of all the raw data demonstrated a photon-deficient area in the right anterior projection images. Subsequent thoracic CT demonstrated a fusiform thoracoabdominal aortic aneurysm apparently located in the regions of decreased radiotracer uptake in the cardiac scan (Fig. 2).

A thoracic aortic aneurysm is a serious health problem because depending on its location and size, it may rupture or dissect, causing life-threatening by internal bleeding. While only half of those with thoracic aortic aneurysm complain of symptoms, possible warning signs include pain in the jaw, neck and upper back, chest or back pain, coughing, hoarseness, or difficulty in breathing. If a thoracic

Fig. 1. Myocardial perfusion imaging shows an irreversible hypoperfusion in the mid-ventricular portion of anteroseptal wall, and a suspicious reversible hypoperfusion in the apical slices of inferolateral wall. The review of the raw cine data demonstrates photon-deficient areas in the posterior region of the left hemithorax (arrows).

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Fig. 2. Coronal, sagittal and transaxial slices of thoracic computed tomography of the patient demonstrate a fusiform thoracoabdominal aortic aneurysm including ascending aortic, aortic arch, and descending aortic (arrows), and abdominal aortic (arrowheads) aneurysm that is apparently located in the regions of decreased radiotracer uptake in the myocardial perfusion SPECT.

Aortic aneurysm is suspected, chest X-ray, CT, MRI, echocardiography, and angiography demonstrate the disease.¹

Myocardial perfusion gated SPECT imaging is widely used to evaluate suspected or known coronary artery disease. Beside the knowledge of regional myocardial perfusion and left ventricular function and volumes, it also gives information about extracardiac diseases according to incidental findings of radiotracer distribution. In the literature, the causes of decreased extracardiac uptake in the thorax are given as follows: malfunctioning photomultiplier tubes, dilated pulmonary arteries and dilated left atrium, pacemakers, coins, defibrillators, pleural effusion and pericardial effusion.²,³

In short, it is recommended to review of cinematic projections in order to find extracardiac increased or decreased activities. According to our knowledge, this is the first case demonstrating decreased sestamibi uptake due to a thoracic aortic aneurysm in the literature.

References