

Title: D shaped left ventricle seen on gated single-photon emission computed tomography (SPECT) is suggestive of right ventricular overload the so called Movahed's sign

Running Head: Movahed's sign unmasking right ventricular overload

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To the Editor:

In the manuscript published by De Lorenzo et al. entitled "A Not so Obvious Cause of Chest Pain: Pulmonary Hypertension", (1) they described an image showing right ventricular enlargement that was seen on gated (SPECT) images in a patient with pulmonary hypertension. However, they failed to realize the classic D shape left ventricle in their images and the fact that this phenomenon has been well described previously as a very specific sign of right ventricular overload (2) and is now accepted as the so called Movahed's sign (3) and should be routinely assessed during interpretation of gated single-photon emission computed tomography (SPECT) studies. In the initial publication of this phenomenon (2), this sign was found to be very specific for right ventricular overload and was even more common than echocardiography in visualizing the D shape left ventricle. We believe that assessment of the septum shape during gated SPECT should be routinely performed in order to avoid missing a not so obvious cause of potentially treatable life threatening chest pain such as pulmonary hypertension or pulmonary embolism.

## References:

1. De Lorenzo A, Lessa C, Camargo G, Gottlieb I, Lima RS. A Not so Obvious Cause of Chest Pain: Pulmonary Hypertension. *Am J Med.* 2014;127(7):605-7.
2. Movahed MR, Hepner A, Lizotte P, Milne N. Flattening of the interventricular septum (D-shaped left ventricle) in addition to high right ventricular tracer uptake and increased right ventricular volume found on gated SPECT studies strongly correlates with right ventricular overload. *J Nucl Cardiol.* 2005;12(4):428-34.
3. Murarka S, Movahed MR . Review of Movahed's sign (D shaped left ventricle seen on gated SPECT) suggestive of right ventricular overload. *Int J Cardiovasc Imaging.* 2010 ;26(5):553-7.