An unexpected diagnosis of pericardial effusion

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Figure 1 Nuclear myocardial perfusion images with Tc-99m. The images displayed on the top row are stress images, and the images displayed on the bottom row are the resting images. Long axis (A) and short axis (B) images seen here have a surrounding area of decreased radiopharmaceutical uptake around the left ventricle (arrows) due to the presence of a moderate sized pericardial effusion. This halo of decreased tracer uptake is seen more clearly than usual due to increased lung uptake of radiopharmaceutical resulting from the elevated left ventricular end diastolic pressure.

Figure 2 Black and white zoomed stress short axis images shows a clear halo of decreased tracer uptake (arrow) surrounding the left ventricle, consistent with a pericardial effusion on nuclear medicine imaging. There is also increased radiopharmaceutical uptake by the lungs due to an elevated left ventricular end diastolic pressure.

A 36-year-old man with diabetes mellitus, hypertension, and end-stage renal disease on hemodialysis underwent a nuclear myocardial perfusion imaging (NMPI) study as part of perioperative evaluation for kidney transplantation. The NMPI study (Tc-
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David Sotello et al. Unexpected diagnosis of pericardial effusion

References


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Figure 3 Transthoracic echocardiogram parasternal long axis (A) and short axis (B) views demonstrate moderate size pericardial effusion (arrows) first identified on the nuclear myocardial perfusion study.

99m) demonstrated a “halo” of decreased activity surrounding the myocardium. This was enhanced due to increased lung uptake and was confirmed to be a moderate pericardial effusion with tamponade physiology on transthoracic echocardiogram. The patient had several echocardiograms in the past, but none of them showed evidence of a pericardial disease. Pericardial effusion is uncommonly diagnosed with an NMPI, but in this particular patient it can be clearly seen due to the presence of increased lung uptake of the radiotracer.1-8