A 74-year-old man was referred to the Cardiology clinic with a 3-week history of exertional chest tightness. These episodes lasted a few seconds without any limitation to activity. The gentleman is an ex-smoker and a hypertensive on treatment. The results of the clinical examination and ECG were unremarkable. An exercise tolerance test was found to be negative, albeit at a subtarget heart rate. Myocardial perfusion scintigraphy with technetium-99 m–labeled tetrofosmin was subsequently performed, and the result was negative for inducible ischemia. However, there was an incidental finding of focal extracardiac tracer uptake seen on the source images. This was identified, on the computed tomography scan performed for attenuation correction, as uptake within a 5 × 3 cm mass present in a destroyed anterior right fourth rib (Figures 1 and 2, Movie I in the online-only Data Supplement). A contrast computed tomography scan confirmed this as a solitary lesion. He was found to have a moderate-sized IgGK paraprotein with a trace of urinary Bence-Jones protein. Bone marrow aspirate showed 2% plasma cells consistent with monoclonal gammopathy of unknown significance. Computed tomography–guided biopsy of the lesion confirmed a malignant plasmacytoma. The gentleman has been referred for local radiotherapy by the hematologists.

It is known that myocardial perfusion scintigraphy agents such as tetrofosmin are taken up in a variety of tumors.1 Although the incidence of pathological extracardiac uptake is rare, review of the raw data must be performed routinely by physicians before interpretation to avoid missing potentially fatal conditions. Our case confirms the importance of the review of these areas in myocardial perfusion scintigraphy studies.

Disclosures

None.

References

Figure 1. Top, Low-dose computed tomography images performed for attenuation correction. Middle, The myocardial perfusion scintigraphy isotope images. Bottom, Fused images. Each of these rows shows the cardiac region in 3 planes (coronal, sagittal, and axial). The arrow points to the normal tracer uptake in the left ventricle. The pointer shows the abnormal extracardiac tracer uptake (middle), which is localized to the mass in the anterior aspect of the right fourth rib in the top and bottom rows.

Figure 2. A closer look at the fused transaxial slices showing the abnormal tracer uptake in the right rib mass (pointer).
Extracardiac Tumor Tracer Uptake in Myocardial Perfusion Scintigraphy
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Movie Legend

**Movie 1.** A 3D Maximum Intensity Projection (MIP) showing normal tracer uptake in the left ventricle and the abnormal extracardiac tracer uptake. Best viewed with Quick Time.