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The use of contrast echocardiography to identify infiltrating lymphoma in the myocardium

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Introduction: Angioimmunoblastic T-cell lymphoma (AITL) is an uncommon lymphoma with rare cardiac manifestations. We present a clinical example where non-contrast and contrast enhanced echocardiograms demonstrated remarkably different myocardial compositions, particularly in our patient identifying infiltrating lymphoma in the myocardium.

Case Study: A 68-year-old African American man with past medical history of AITL was presented with weakness and fatigue for 2 weeks. Transthoracic echocardiogram (TTE) without contrast was performed that showed a pericardial effusion and an echolucency of the left ventricle concerning for pseudoaneurysm. Repeat TTE was performed using IV contrast revealed the presence of multiple non-communicating hypodensities within the myocardium. Pericardial fluid analysis did not reveal evidence of lymphoma, however pleural fluid cytology exhibited abnormal cells consistent with T-cell lymphoma.

Discussion & Conclusion: In our patient, contrast enhanced echocardiography identified infiltrating lymphoma in the myocardium that was not seen with standard 2D imaging. Echocardiographic contrast agents are excellent tools for the evaluation of the LV endocardium especially in the detection and classification of intracardiac masses, including thrombi and tumors. Most malignant tumors, secondary to neovascularization, have an abnormally concentrated and dilated vasculature and concordantly, will display increased contrast enhancement compared to the adjacent myocardium. Contrary to the norm, we found metastatic lesions in our patient with deceased pixel intensity. The use of contrast agents should be considered when evaluating patients with non-cardiac diseases that have the potential for infiltrating the myocardium, but the level of contrast enhancement may vary with certain types of tumors.

Biography

Fisher P is an Internal Medicine Resident at the Mount Sinai Beth Israel Medical Center in New York. He attended an accelerated BS/MD program at the Sophie Davis School of Biomedical Education. He completed his Clinical Medical School training at Albany Medical College. Along the way, he performed clinical research, presented at multiple conferences and lectures, published works, and amassed several awards honoring his work. He now practices Inpatient Medicine at Beth Israel Hospital, and maintains outpatient privileges at the Ryan NENA Community Health Center – serving the underserved population of New York City's Lower East Side. He has a passion for the art of Cardiology, and aspires to specialize in Cardiovascular Medicine.

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