High FDG Uptake in the Right Ventricular Myocardium of a Pulmonary Hypertension Patient

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A patient with pulmonary fibrosis and increasing shortness of breath was referred for 18F-fluorodeoxyglucose (FDG) positron emission tomography (PET) scanning to assess pulmonary inflammation. On FDG PET imaging, high glucose metabolism was observed in the right ventricular myocardium (A, short-axis view; B, 4-chamber view), suspected for pulmonary hypertension, which was confirmed with right heart catheterization.

For both the left and right ventricular myocardia, it has been shown that myocardial energy substrate utilization is altered in association with the development of pathological forms of ventricular hypertrophy. In patients with these conditions, myocardial fatty acid utilization decreases while glycolysis increases (1,2). This case clearly demonstrates the altered energy metabolism of failing right ventricular myocardium due to the increased workload in a patient with pulmonary hypertension. This novel imaging sign of pulmonary hypertension may aid detection of this underdiagnosed disorder.

REFERENCES
