Acute impairment of regional myocardial glucose uptake in the apical ballooning (takotsubo) syndrome

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Background. Apical ballooning syndrome (ABS) is a poorly understood clinical entity characterized by acute, transient systolic dysfunction of the left ventricular (LV) apex in the absence of epicardial coronary artery disease and commonly associated with acute emotional stress. We report abnormal regional myocardial perfusion and glucose uptake in 4 consecutive ABS patients studied using positron emission tomography with $^{13}$N-ammonia and $^{18}$F-fluorodeoxyglucose within 72 hours of presentation with ABS.

Methods. All patients were postmenopausal females, 3 of whom had a major recent life stress event. Coronary angiography revealed no or minimal obstructive epicardial coronary artery disease. All patients exhibited reduced glucose uptake in the mid-LV and apical myocardial segments, which was out of proportion to perfusion abnormalities in half of the cases.

Conclusion. In all 4 patients, affected regions subsequently recovered regional LV systolic function within 6 weeks. (J Nucl Cardiol 2006;13:244-50.)
Impaired glucose uptake in apical ballooning syndrome