

A Man with Shortness of Breath and an Abnormal ECG: A Short Case

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An 80 year-old Chinese male with a history of tobacco use and asthma presented to the ER complaining of shortness of breath that was unresponsive to bronchodilator use. The patient's ECG on admission was sinus rhythm at 95 beats per minute with minimal ST elevations in V2-V4. Laboratory results were significant for a troponin of 7.7. The patient was started on anticoagulation with heparin. A transthoracic echocardiogram revealed an ejection fraction of 25%. The patient underwent coronary catheterization, which revealed luminal irregularities of his coronary arteries. Figures 1 and 2 show the end diastolic and end systolic left ventriculograms from the catheterization, respectively.

The end systolic ventriculogram demonstrates anterolateral and apical akinesis in a pattern similar to a "tako-tsubo," or octopus pot. Tako-tsubo-like left ventricular dysfunction is a transient process that can be brought on by "stressful" circumstances, including strong emotions and bronchoconstriction. Typically, the patients have elevations in troponin levels, but do not have evidence of coronary artery disease on catheterization. The left ventricular dysfunction resolves in two to six weeks. In this patient, a transthoracic echocardiogram demonstrated normal left ventricular function two weeks after the initial echocardiogram.



Figure 1.



Figure 2.