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Sky high troponin with clean coronaries

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Troponin elevation with non-obstructive coronary arteries in setting of demand myocardial ischemia is defined as Type 2 non-ST elevation myocardial infarction (NSTEMI). Degree of troponin elevation in such setting is not often studied. We present a case where an unusually high troponin elevation was observed in a patient with a Type 2 NSTEMI.

73-year-old male with a previous history of tobacco abuse, HTN, and coronary artery disease with stent placement 7 months prior admitted with atypical chest pain. Admission vitals included a blood pressure of 211/142 and a heart rate of 120. Physical exam was unremarkable. Electrocardiogram showed sinus tachycardia with no ST changes. Initial troponin was 0.46ng/ml and peaked at 197.7ng/ml within 12 hours. Transthoracic echocardiogram showed severe left ventricular hypertrophy, normal systolic and diastolic function with no wall motion abnormalities. Subsequent coronary angiography revealed non-obstructive epicardial arteries and a patent prior stent. With optimal blood pressure and heart rate control, the patient became asymptomatic and the troponins continued to trend down.

Given the above patient's presentation, non-obstructive epicardial arteries, and normal echocardiographic findings, we concluded that hypertensive emergency likely caused a Type 2 NSTEMI. Often with demand myocardial ischemia, such high troponins as noted in this case are not typically observed. Previous studies report with a troponin >100ng/ml suggest a large myocardial infarction with poor prognosis, which is not the case in this patient. We hypothesize that this patient's large left ventricular myocardial mass from hypertrophy could have lead to a more than usual troponin leak in setting of a Type 2 NSTEMI. Thorough literature search on PubMed did not yield any similar cases. This case promotes the need for more studies to evaluate the relation of left ventricular mass to the degree of troponin elevation in setting of acute coronary syndromes.

Biography

Martin Binesh has completed his MD from American University of Caribbean and is currently a PGY-1 Internal Medicine resident at Baton Rouge General, an affiliate of Tulane University School of Medicine, in Baton Rouge, Louisiana. Has a future goal to pursue a cardiology fellowship.

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