*Myocarditis as a Presentation of MINOCA*

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**Introduction**

Myocardial Infarction with Non-Obstructive Coronary Arteries (MINOCA) is defined by its name. Typically affecting younger individuals, MINOCA risks being overlooked or undermanaged when no coronary artery obstruction is found on angiography to explain an MI. Given the many etiologies of MINOCA, an effective treatment lies in finding the cause. Diagnostic tools are of great importance to the morbidity and mortality of this heterogeneous syndrome.

**Case Report:**

A 30-year-old male with a notable family history of early-onset cardiovascular disease presented with acute left-sided chest pain radiating to the left arm and neck, associated with dyspnea, dizziness, diaphoresis, nausea, and blurry vision. Symptoms initially improved with acetaminophen but recurred, prompting ED evaluation. He does not take any home medications. He reported recently testing positive for Influenza A. He reports drinking 2-3 beers daily, occasional cocaine use, occasional marijuana use, and chewing tobacco use. He denied cocaine use in the days leading up to admission.

In the ED, his vital signs and physical exam were unremarkable for any significant abnormality. He had a high sensitivity troponin of 2,293 ng/L and EKG with non-specific ST changes. Bedside ECHO showed a possible anteroseptal wall motion abnormality. The patient was aspirin and heparin loaded and started on a heparin drip. He was given sublingual nitroglycerin and reported mild relief of chest pain. Cardiology was consulted, and he was taken for an urgent coronary angiogram. Angiography was normal, without evidence of obstructive coronary artery disease, and showed normal LVEDP, consistent with MINOCA. As part of MINOCA workup, our differential diagnoses included coronary vasospasm, microvascular disease, and myocarditis. Post-angiogram TTE showed LVEF 50-55% with normal diastolic function, mild impairment of LV systolic function, and hypokinetic basal anterolateral segment. Further workup with cardiac MRI was consistent with myocarditis. The patient was discharged home in stable condition, with resolution of symptoms after initiation of aspirin, atorvastatin, metoprolol succinate, losartan, and a 7-day course of high dose prednisone with sublingual nitroglycerin prn.

**Discussion:**

This case highlights the importance of considering alternative etiologies in patients presenting with an NSTEMI without coronary obstruction on angiography. In this case, our patient had a history of cocaine use and a recent infection with Influenza A, raising suspicion for coronary vasospasm versus myocarditis. Myocarditis of unknown etiology was confirmed through cardiac MRI, highlighting the importance of early cardiac MRI to help determine the etiology of MINOCA.