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Management of Uncomplicated Myocarditis in a Young Athlete

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Background: A 17-year-old previously healthy male competitive soccer player presented to the emergency department with chest pain.

History: The patient woke up with sharp, pleuritic, substernal chest pain radiating to his right shoulder. One week prior, he had fever and myalgias, was diagnosed with influenza, and was treated with oseltamivir. He had no cardiac history, no family history of premature coronary artery disease, and denied alcohol, tobacco, or drug use.

Exams and images: Vital signs and physical exam were unremarkable. Lab work was notable for troponin T generation 5 initially at 169 ng/L and peaking at 493 ng/L (normal: <22 ng/L), with corresponding creatine kinase-myocardial band (CK-MB) elevations peaking at 22.0 ng/mL (normal: 0-4.8 ng/mL). Electrocardiogram demonstrated sinus bradycardia with prominent ST upsloping and peaked T waves diffusely, but no definitive ST changes. Transthoracic echocardiogram (TTE) demonstrated a borderline depressed left ventricular ejection fraction of 55% without wall motion abnormalities. Cardiac magnetic resonance (CMR) revealed subepicardial late gadolinium enhancement (LGE) in the basal anteroseptal and distal inferoseptal walls.

Treatment plan: The patient was diagnosed with myopericarditis. He was treated with ibuprofen (800mg every 8 hours for 1 week) and colchicine (0.6mg daily for 6 months). He was advised to avoid full training until follow-up troponin, TTE, and stress echocardiogram were obtained, with repeat CMR planned for a later assessment.

Patient outcome: The patient's chest pain resolved by hospital day four. One-week follow-up troponins, TTE, and stress echocardiogram were normal. He resumed gradual cardiovascular activity over two weeks post-hospitalization, prior to resumption of full training. He participated in a college showcase soccer tournament one month post-hospitalization without symptoms. CMR at four and seven months post-hospitalization showed improved LGE with minimal residual enhancement in the basal anteroseptum.

Clinical implications: This case highlights several questions regarding the management of uncomplicated myocarditis, including when follow-up tests such as cardiac troponins and CMR should be obtained, how these tests should be used to guide return-to-exercise recommendations, and the prognostic significance of residual LGE on CMR.

Disclosures: The authors report there are no competing interests to declare.