

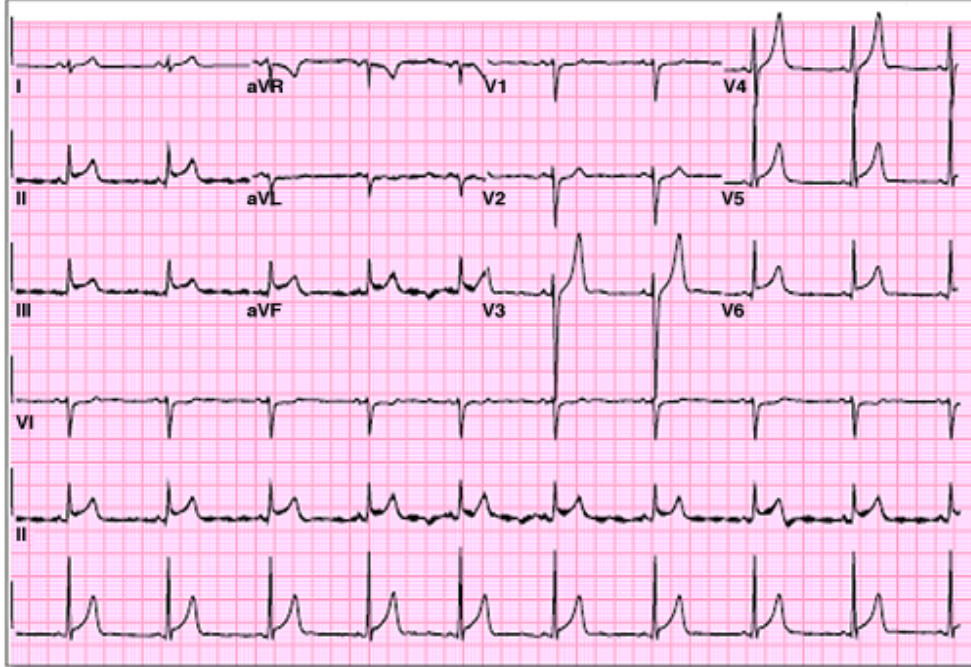
# HOLY C.O.W.!

**IT'S...**

**Clinical Question of the Week #3  
July 14th, 2008 through July 21st, 2008**

Please e-mail your answers to Kuo, Tim, Wendy, or Kevin ([klian@mednet.ucla.edu](mailto:klian@mednet.ucla.edu); [tprovias@mednet.ucla.edu](mailto:tprovias@mednet.ucla.edu); [wsimon@mednet.ucla.edu](mailto:wsimon@mednet.ucla.edu); [kbreger@mednet.ucla.edu](mailto:kbreger@mednet.ucla.edu)) by 0800 on Monday, July 21<sup>st</sup>, 2008. The resident or intern with the most correct answers at the end of each month will receive a prize!

**Case:** A 22 year old male without past medical history presented to the ED after being awakened from sleep several hours prior by constant, pressure-like substernal chest pain associated with dyspnea and diaphoresis. He denied palpitations, swelling, or orthopnea, and had never had these symptoms before. History was negative for illicit drug use, alcohol, smoking, or herbal medication use. Review of systems was notable for a recent viral upper respiratory infection. Vital signs revealed BP 115/70, HR 70, RR 12, and oxygen saturation 99% on room air. Physical examination was notable for mild bibasilar crackles on lung auscultation and a normal cardiac examination including normal left ventricular impulse, normal S1/S2 sounds, no murmurs, clicks, rubs, or gallops, no bruits, and normal jugular venous pressure. Laboratory evaluation was notable for elevated CK total of 400 U, CKMB 60 ng/ml, and Troponin-I of 4.0 ng/ml, rising to 11.0 ng/ml six hours later. Other laboratory values including CBC, chemistries, urinalysis, and urine toxicology screen were unremarkable. EKG is shown below. Echocardiogram revealed mildly depressed LVEF of approximately 45% and a small effusion without any evidence of RV compression.



**Questions:**

**1. What is the diagnosis?**

Acute myopericarditis given echocardiographic findings along with findings of acute pericarditis. (0.5)

**2. How often does one see elevated cardiac enzymes with this diagnosis?**

In up to 50% of pericarditis cases per the ACC case report cited below. In studies by Immazio et al. and Bonnefoy et al. (187 patients with acute pericarditis) cited in UpToDate, serum TnI can be detectable in 32-49% of patients with pericarditis, with a value of >1.5 ng/ml in 8%. (0.5)

**3. What is the standard initial workup (i.e. labs, other studies) to evaluate a patient with this presentation?**

Includes EKG, CXR, ANA if suggestion of inflammatory process, PPD, HIV. Blood cultures if febrile. Viral studies not routinely useful clinically. Additional studies (scanning, biopsy, etc.) if history suggests malignancy. Additionally, "Echocardiography should be performed in all cases, but especially if tamponade or purulent pericarditis is suspected, if there is concern about myocarditis, or if there is chest x-ray evidence of cardiac enlargement, particularly if this is a new finding. Echocardiography, when it discloses even a small effusion, can be helpful in confirming the diagnosis of pericarditis" (UpToDate). (1)

**4. What is the treatment?**

Non-steroidal anti-inflammatory medications. Consider colchicine and steroids if refractory or recurrent and no evidence infectious. If depressed ejection fraction or ventricular ectopy noted consistent with concomitant diagnosis of myocarditis, beta-blockade and ACE inhibition should be considered. (1)

Case study adapted from the American College of Cardiology Cardiosource site, <http://www.cardiosource.com/casestudies/initPres.asp?studyID=742>.