

Cardiac Tamponade

Jennifer G. Wilson, MD, MS*

Sara M. Epstein, MD†

Ralph Wang, MD‡

Hemal K. Kanzaria, MD§

*University of California San Francisco, Department of Internal Medicine, Division of Critical Care, San Francisco, California

†University of California San Francisco, Department of Internal Medicine, San Francisco, California

‡University of California San Francisco, Department of Emergency Medicine, San Francisco California

§University of California Los Angeles, Department of Emergency Medicine, Division of General Internal Medicine and Health Service Research, Los Angeles, California

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A 49-year-old man was brought to the emergency department by ambulance after he sustained a stab wound to the chest. He was alert but diaphoretic, with an initial systolic blood pressure of 90 by palpation and a heart rate of 110. A 1 cm laceration was noted at the left lower sternal border. Lung sounds were clear bilaterally, and heart sounds were muted. His cervical collar was removed, revealing distended neck veins (Figure). A bedside ultrasound demonstrated pericardial fluid (Video).

The patient had a pericardial effusion from penetrating chest trauma, causing cardiac tamponade. Cardiac tamponade is caused by fluid trapped in the pericardial space, compressing the heart, compromising ventricular filling, and therefore cardiac output.¹ Acute traumatic cardiac tamponade presents with chest pain and respiratory distress.² Beck's triad may be present on exam, as it was in our case: muffled heart sounds, distended jugular veins, and hypotension.¹ A narrow pulse pressure and pulsus paradoxus may also be observed.² The diagnosis can be rapidly confirmed by bedside ultrasound.³ In traumatic cardiac tamponade, the treatment is thoracotomy in unstable or pulseless patients or median sternotomy.⁴ Pericardiocentesis is indicated only if operative intervention is not immediately available.⁵ This patient was transferred directly to the operating room where a median sternotomy was performed. A 1 cm laceration to the right ventricle was identified and successfully repaired. The patient had an uneventful postoperative course and recovered well.

Video. Ultrasound demonstrating pericardial fluid.

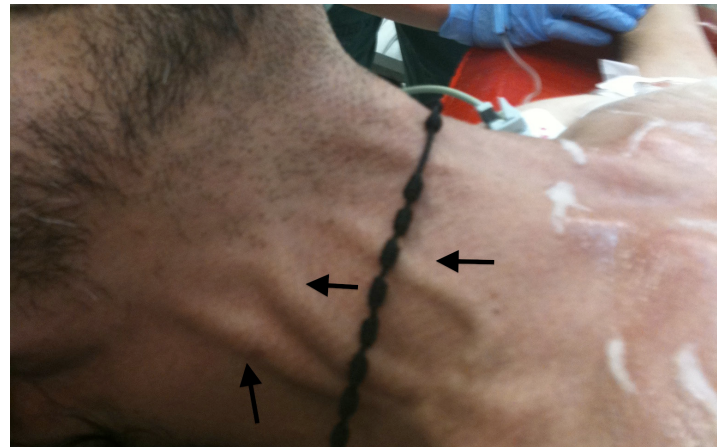


Figure. Distended neck vein.

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Address for Correspondence: Hemal K. Kanzaria, MD, Robert Wood Johnson Foundation Clinical Scholar®, Department of Emergency Medicine, University of California Los Angeles, 10940 Wilshire Boulevard, Suite 710, Los Angeles, CA 90024. Email: hkanzaria@mednet.ucla.edu.