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Cardiac Tamponade

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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.

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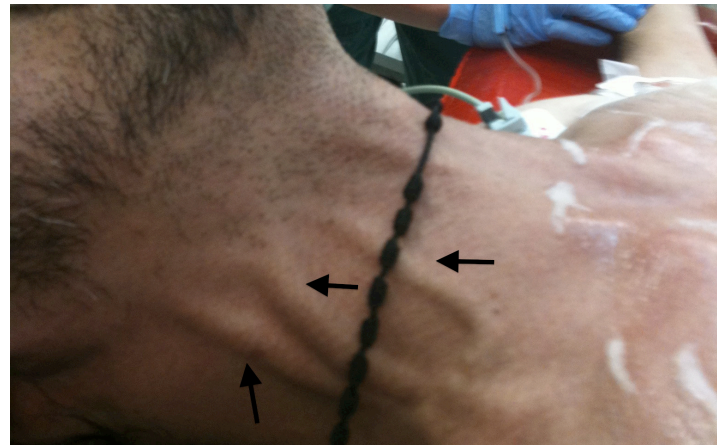


Figure. Distended neck vein.

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