Medical Image of the Week: Pulsus Paradoxus

A 75 year-old man was admitted for suspected septic shock and acute renal failure requiring hemodialysis. He did not require mechanical ventilation. An arterial line was placed and he was found to have pulsus paradoxus (Figure 1). A transthoracic echocardiogram showed early right atrial diastolic collapse consistent with cardiac tamponade and he underwent a pericardial window.

Pulsus paradoxus is the drop in more than 10 mm Hg of systolic pressure during the inspiratory phase (1). Causes of pulsus paradoxus include cardiac tamponade, constrictive pericarditis, severe asthma and chronic obstructive pulmonary disease, restrictive cardiomyopathy, tension pneumothorax, tracheal compression, and circulatory shock (2). With early recognition of this clinical sign, prompt treatment of the underlying etiology can produce a more desirable outcome.

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References