A 68 year old man is transferred to the intensive care unit because of hypotension. An ultrasound of the heart and inferior vena cava (IVC) were performed (Figure 1).

![Ultrasound images of heart and IVC](image)

**Figure 1. Upper panel: subxiphoid view of heart. Lower panel: inferior vena cava.**

What is the cause of the hypotension?

1. Cardiogenic shock secondary to cardiomyopathy
2. Intracardiac thrombus
3. Intravascular volume depletion
4. Massive pulmonary embolism
5. Pericardial effusion
Correct!

5. Pericardial Effusion

All the listed disease processes are potential causes of hypotension and ultrasonography can be quite useful (1). The ultrasound subxiphoid view of the heart shows right ventricular collapse and a large posterior pericardial effusion (Figure 2).

![Figure 2. Static image showing the subxiphoid view of the heart with the chambers labeled and a large pericardial effusion.](image)

There is no evidence of an intracardiac thrombus, elevated right sided heart pressures as seen with a massive pulmonary embolism, and the heart muscle is contracting vigorously not hypokinetic as seen with a cardiomyopathy.

The inferior vena cava is greater than 2 cm (normal 15-17 mm) and does not collapse with inspiration (Figure 3).
The clinical picture of hypotension with the ultrasonographic findings of a pericardial effusion and an enlarged inferior vena cava suggest the diagnosis of cardiac tamponade.

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**Reference**