Cardiac Tamponade in the Setting of Severe Sepsis and Adrenal Insufficiency

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Background

- Pericardial effusions can have various etiologies. Cardiac tamponade is a life-threatening condition which occurs when large effusions compress the heart and can lead to obstructive shock.

Case Description

- A 48-year-old female with a history of pituitary adenoma resection presented with subjective fevers and generalized weakness.
- She was lethargic with muffled heart sounds on exam. Vitals showed a heart rate of 95 beats/min, blood pressure 63/51 mmHg, respiratory rate 18 breaths/min, with normal temperature.
- Labs showed a serum sodium level of 126 mmol/L and lactate 3.7. Morning cortisol and ACTH levels were low, consistent with secondary adrenal insufficiency (AI).
- CT scan of the chest without contrast showed ground glass opacities with cephalization of the pulmonary vessels, bilateral pleural effusions and a large pericardial effusion (Figure 1). Transthoracic echocardiogram demonstrated this effusion inducing moderate right atrial collapse (Figure 2).
- She underwent emergent pericardial window, with drainage of 700 mL of dark serous fluid. She received empiric antibiotics, as well as IV fluids and hydrocortisone with clinical improvement and electrolyte abnormalities resolved.

This research was supported (in whole or in part) by HCA Healthcare and/or an HCA Healthcare affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities.

Images

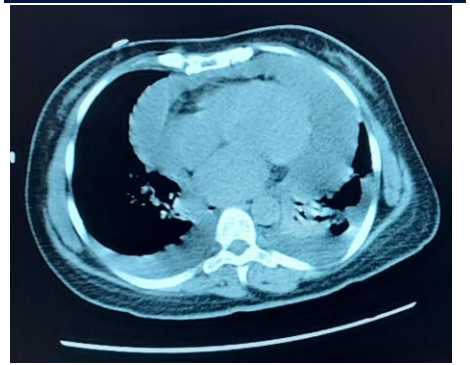

Figure 1. CT scan of the chest demonstrating large pericardial effusion.

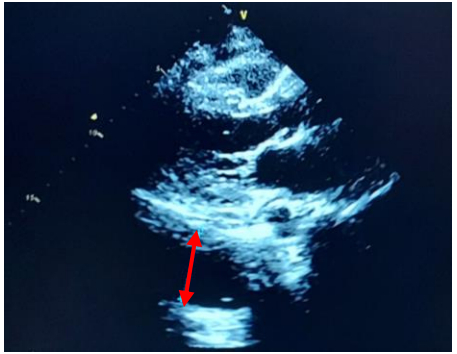

Figure 2. Large pericardial effusion on echo.

Discussion

- Cardiac tamponade can mimic septic shock. Early recognition is critical, as treatment is emergent pericardiocentesis.
- No obvious source of a bacterial infection was identified. We suspect a viral infection preceded the development of her pericardial effusion. Her AI may have increased the likelihood of her pericardial effusion progressing to tamponade. A few case reports have documented this peculiar association between AI and cardiac tamponade.

Conclusion

- This is a unique case of cardiac tamponade in a patient with adrenal insufficiency. Tamponade can mimic septic shock; thus, a broad differential diagnosis should be maintained in order to perform appropriate diagnostic workup and treatment.

References

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