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Title: Cardiac tamponade as a cause for hyponatremia in patients with active malignancy

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Hyponatremia is the most common electrolyte imbalance managed by hospitalists. Although a rare entity, a relationship between hyponatremia and cardiac tamponade has been reported in a few published reports that highlight the normalization of sodium levels following pericardial drainage.

This is the case of a 57-year-old lady with rapidly progressive stage IV pulmonary adenocarcinoma who presented two months following diagnosis with findings of significant hyponatremia. Upon admission, she was afebrile, hypotensive and tachycardic. Her laboratory studies revealed a sodium level of 119 mEq/L, as well as hypokalemia and hypochloremia. Although her presentation was consistent with Syndrome of Inappropriate Antidiuretic Hormone, her hyponatremia did not improve despite adequate management with fluid restriction and salt tabs. During hospitalization, she was also found to have a large pericardial effusion with echocardiographic evidence consistent with tamponade physiology that required an emergent pericardial window. Her sodium levels normalized immediately following pericardial drainage, suggesting a correlation between her hyponatremia and cardiac tamponade.

A handful of published reports present a similar scenario in which pericardial drainage resulted in immediate resolution of the hyponatremia, particularly in patients with underlying malignancies. It is suggested that a decreased cardiac output stimulates antidiuretic hormone release and suppresses atrial natriuretic factor release, causing volume retention, increased heart rate and increased peripheral resistance. Following pericardiocentesis, there is marked diuresis and a normalization in sodium concentration. Cardiac tamponade should be included in the differential of hyponatremia in patients with active malignancy, since prompt management with pericardial drainage can result in marked improvement of hyponatremia.

Figures:

1. Chest CT with contrast on admission day #2 showing mild pericardial effusion and right sided pleural effusion

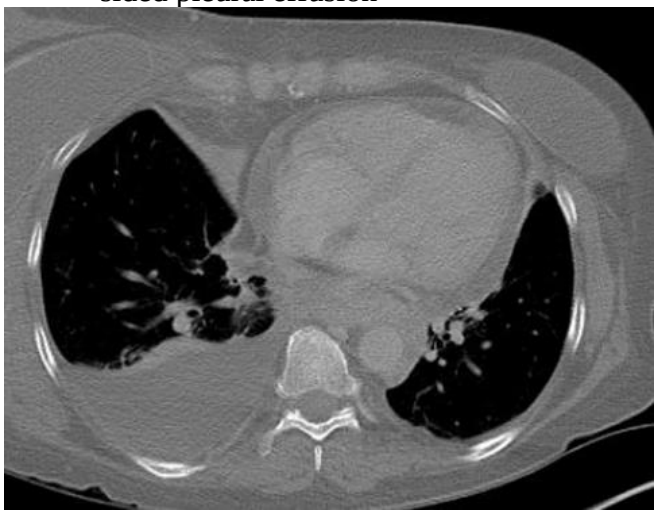


Figure 2. Chest CT on day #14 showing a severe pericardial effusion and recurrent pleural effusion



Biography

Paula Hernandez has completed her MD from the University of Puerto Rico Medical Sciences Campus. She is the currently in her first year of internal medicine residency at the University of South Florida Morsani School of Medicine in Tampa. She has published 4 papers in reputed journals and is currently engaged in diverse scholarly activities. She is interested in pursuing a cardiology fellowship and continuing research on imaging cardiology.

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