CONFLICTING HEMODYNAMIC DATA DUE TO INTRAVASCULAR VOLUME VARIATIONS IN CONSTRICTIVE PERICARDITIS

Poster Contributions
Hall C
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Background: Constrictive pericarditis can present with edema and ascites, which mimic liver dysfunction. Hemodynamic data remain the gold standard for the diagnosis.

Case: A 43-year-old man was treated for progressively worsening lower extremity edema and ascites for five months. This was attributed to liver failure and portal hypertension; he was treated with aldactone, furosemide and repeated paracentesis. He was admitted for further work-up. On physical exam he had distant cardiac sounds, but no murmurs, rubs or gallops. Lungs showed decreased breath sounds; abdomen had positive fluid wave; lower extremities revealed 2+ pitting edema up to the abdomen. EKG revealed sinus tachycardia and low voltage.

Decision-making: He underwent left heart catheterization, which revealed normal left ventricular ejection fraction (LVEF) and minimal coronary disease. He underwent two right heart catheterizations at different times; one after diuresis, with systolic blood pressure (SBP) of 90 mmHg, which did not show hemodynamic signs of constrictive pericarditis; another after intravenous fluids to correct hyponatremia and hypotension, with SBP of 110 mmHg which revealed cardiac output of 3.45 L/min; Pressures (mmHg): PA 48/27, RV 40/27, RA 26, and wedge 32, suggestive of constrictive physiology. The difference between the two tests was presumed to be due to different intravascular volumes. Echocardiogram done due to discrepancy in hemodynamic data revealed normal LVEF, interventricular septal respiratory bounce, annulus reversus of the mitral annular tissue Doppler velocities, and early expiratory reversal of hepatic vein flow, all suggestive of constrictive physiology. Chest MRI revealed thickened pericardium. Following pericarial stripping surgery he recovered well without evidence of edema or ascites upon follow-up. Other non-cardiac work-up for amyloidosis, malignancy and vasculitis was negative.

Conclusion: This case demonstrates the need for having a high index of suspicion for diagnosing constrictive pericarditis, employing several invasive and noninvasive diagnostic modalities to resolve occasionally conflicting hemodynamic data.