Embryonal carcinoma compromising the heart

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Introduction

- Nonseminomatous germ cell tumor (NSGCT) is an aggressive type of GCT with a five-year survival rate of 40-45%.
- Five hundred primary mediastinal NSGCTs (PM-NSGCTs) are diagnosed annually in the United States.
- Cardiac tamponade is a rare and devastating complication of NSGCT.

Case Description

- CC: Shortness of breath.
- HPI: 28-year-old male with PMHx of PM-NSGCT (embryonal carcinoma) s/p Bleomycin, Etoposide, and Cisplatin (BEP) chemotherapy with incomplete response and awaiting surgical debulking.
- PE: Hemodynamically stable. Muffled heart sounds. No JVD.
- Labs:
  - AFP: 1452 ng/mL
  - b-HCG: < 1mIU/mL
  - LDH: 344 U/L

- Pericardial excision: Acute fibrinous pericarditis, with no tumor cells.
- Pericardial fluid cytology: Reactive mesothelial cells, without malignant cells.

Discussion

- Fibrous pericarditis is one of the most common forms of acute pericarditis.
- Malignancy accounts for 15-20% of large pericardial effusions, and usually represents metastatic spread; however, no tumor cells were seen on fluid cytology in our patient.
- Pericardial effusion is not a known side effect of treatment with BEP chemotherapy.
- Pericardial tamponade was likely a manifestation of the patient’s PM-NSGCT itself.

Conclusion

- Cardiac tamponade, although uncommon, can be a life-threatening complication of this aggressive cancer.
- Early recognition of tamponade physiology can lead to prompt surgical intervention and prevention of organ failure, shock and even death.

References