AIDS Associated Cardiac Burkitt's Lymphoma Presenting as Complete Heart Block with Heart Failure

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Background

- Primary cardiac Burkitt's lymphoma is extremely rare, representing less than 1% of all known non-Hodgkin Lymphomas
- There is a high propensity of association of Burkitt's lymphoma with HIV/AIDS

Clinical Course

- A 56-year-old man with no prior history presented with one month of unintentional weight loss, worsening dyspnea, orthopnea, paroxysmal nocturnal dyspnea, and lower extremity edema
- Physical exam revealed anasarca, bitemporal wasting, bradycardia (54bpm), estimated right atrial pressure 20cm, diminished right lung base breath sounds, 4+ pitting edema to midthigh
- Initial work-up revealed a troponin 4.4 ng/mL, BNP 421 pg/mL, lactic acid 4.6 mmol/L, BUN 50 mg/dL, Cr 1.3 mg/dL, and a reactive HIV Ag Ab, CD4 count 92.
- Electrocardiogram revealed a third-degree atrioventricular block
- Transthoracic echocardiogram (figure 1) and subsequent cardiac magnetic resonance imaging (figure 2) revealed an infiltrative cardiomyopathy with a reduced ejection fraction of 35%, grade 3 diastolic dysfunction, and non-obstructive left and right atrial masse, all of which was concerning of lymphoma

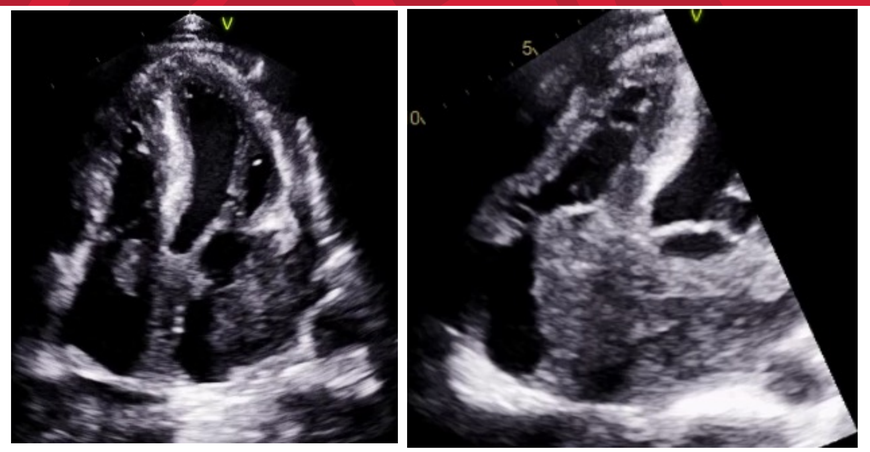

Figure 1: Four chamber transthoracic echocardiogram views reveals thick interventricular and interatrial septum, with a echogenic density in the right atrium (2.5X 1.8 cm) and large mass in left atrium (7 X 5 cm)

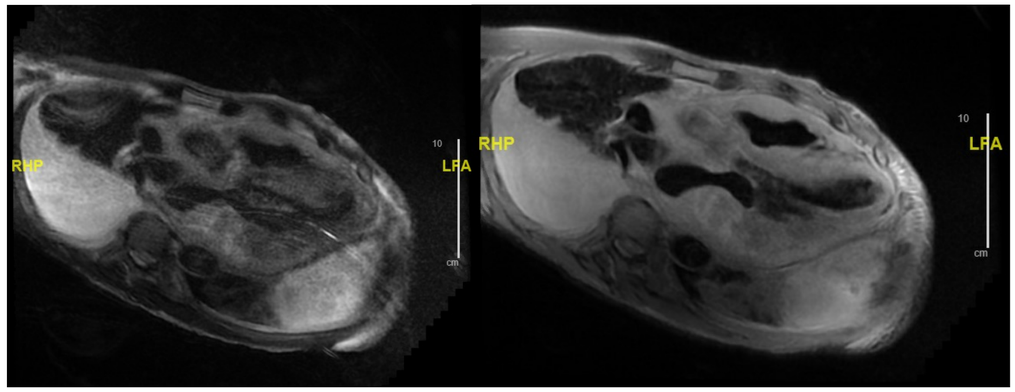

Figure 2: Cardiac MRI detailing a large mass posterior to left atrium with extensive infiltration along the epicardial surfaces and infiltration into the myocardium and involves the intra-atrial septum and both atria

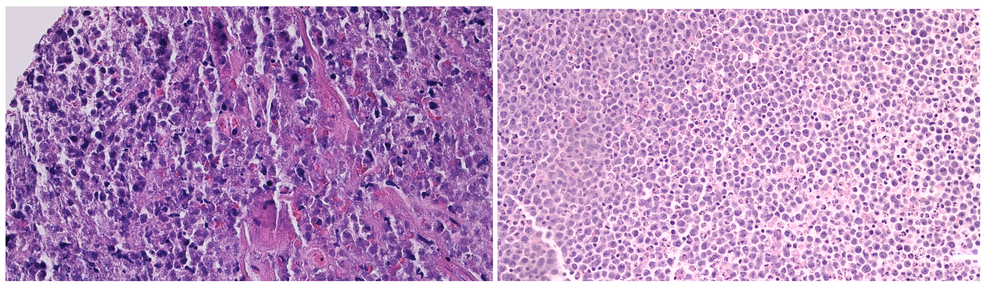

Figure 3: Sub endocardial tissue with poorly preserved large atypical B cells, acute inflammation, and necrosis, consistent with involvement by a high-grade B cell lymphoma (Left). Peritoneal fluid with atypical lymphocytes positive for CD20, PAX-5, and Bcl-6, (subset of cells expressing Bcl-2. Ki-67) (Right). Findings supporting diagnosis of Burkitt Lymphoma.

Clinical Course cont.

- Right atrial endomyocardial biopsy (total of 7 samples), as well as ascitic and pleural cytology revealed a high grade B cell lymphoma with Fluorescence in situ Hybridization revealing a t(8:14), most consistent with Burkitt's lymphoma (Figure 3)
- A leadless atrioventricular pacemaker was placed in the right ventricle
- Patient required furosemide infusion for diuresis and dobutamine infusion to enhance cardiac inotropism
- Patient was also found to have AIDS (CD4 94) and started on antiretroviral therapy and opportunistic infection prophylaxis
- He received one cycle of R-CVP (Rituximab, Cyclophosphamide, Vincristine, Prednisone)
- Further hospital course was complicated by septic shock in setting of neutropenic fever, requiring vasopressor support
- Staging of cancer is ongoing

Conclusion

- To our knowledge, primary cardiac Burkitt's lymphoma has only been reported in only a handful of cases
- Our case highlights cardiac Burkitt's lymphoma causing conduction disease and heart failure

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