HIV-Associated Kaposi sarcoma involving the heart and causing large pericardial effusion

Mohamad Hani Lababidi, MD
Department of Internel Medicine, Presence Health Saint Joseph, Chicago, IL

Introduction

- Kaposi sarcoma (KS)-related pericardial effusion can be a life threatening emergency and should be in the differential diagnosis in HIV positive patients who present with signs and symptoms of pericardial effusion.
- The importance of differentiating KS-related pericardial effusion from other causes of pericardial effusion lies in the differences in treatment in comparison to other causes of pericardial effusion.

Case presentation

- A 54 year old Hispanic male who was diagnosed with HIV infection, AIDS and AIDS related cutaneous KS (nose, back and left leg) one year earlier was seen by his PCP for cough and exertional dyspnea. He was empirically treated with Amoxicillin but failed to show clinical improvement. During a follow up visit to his PCP, he was noted to be hypoxemic on room air and was sent to our hospital emergency department.
- In the emergency department he was found to be hemodynamically stable with a low grade fever and an oxygen saturation of 94% on room air. A CT scan of his chest revealed a large pericardial effusion but did not show any focal pulmonary infiltrates or evidence of pulmonary embolism. In light of these findings he was admitted to the intensive care unit for closer monitoring. Concerns regarding poor adherence to his medications were raised.
- On day 2 a TTE was done and revealed a large pericardial effusion with evidence of early pericardial tamponade. He underwent a pericardiocentesis, and 900 cc of bloody fluid was aspirated. A pericardial tube was placed, and this drained an additional 300 cc of bloody fluid. Laboratory workup for acute EBV and CMV were negative. Pericardial fluid bacterial, fungal and acid fast cultures were negative. Pericardial fluid cytology was also negative. However, the pericardial fluid cell count was compatible with hemopericardium. HIV viral load of 1395 copies/ml, with a CD 4 count of 113 (500-1600) . Follow up echocardiograms showed stable small residual pericardial effusion, prompting removal of the pericardial tube. Given his stable disease and absence of recurrence of the effusion, treatment with anti-inflammatory agents was deferred. He was discharged on day 6 with instructions for close follow up visits with TTE and (PET/CT) scan.
- The follow up PET/CT scan after two months of discharge showed FDG avid areas in the right paratracheal (SUV of 9.8) and subcarinal (SUV 5.6) tissues representing pericardial involvement of Kaposi sarcoma. A repeat PET/CT done after three months to monitor the progress of the disease showed diminished metabolic activity in the previously seen right paratracheal and subcarinal regions with SUV up to 3.9 compared to 9.8 on the previous scan.
- In light of the improved appearance of the lesions, resolution of the pericardial effusion and improved medication adherence, the patient was continued on the same HAART regimen with close monitoring, and the lesions were attributed to Kaposi sarcoma.

References

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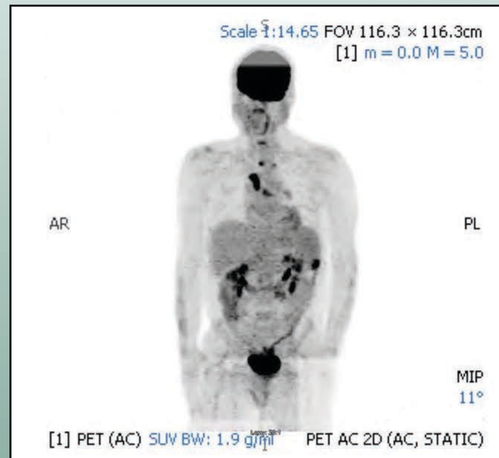
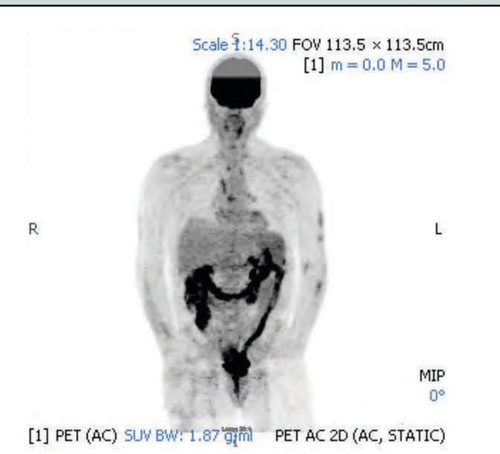
Discussion

- HIV associated KS involvement has been observed in almost all visceral sites including the lymph nodes, GI tract, respiratory system, liver, pancreas, heart, pericardium, testes, and bone marrow.
- Visceral involvement as the initial manifestation of KS is relatively uncommon. Furthermore, visceral disease now appears to be much less frequent with the use of antiretroviral therapy
- When suspected, PET/CT is a useful tool in detecting and monitoring the extent and progression of visceral KS.
- Some studies suggest that KS is responsible for 5-7% of HIV-associated pericardial effusions.
- Systemic treatment with potent combination ART is the main method of treatment. Further treatment beyond ART depends on the extent of disease, location, the rapidity of tumor growth, HIV viral load, CD4 cell count and the patient's overall condition and preference. Options include intralesional chemotherapy, systemic chemotherapy and radiation therapy
- In our patient, a high index of suspicion for the possible involvement of Kaposi sarcoma led to the correct diagnosis and thus the successful management.

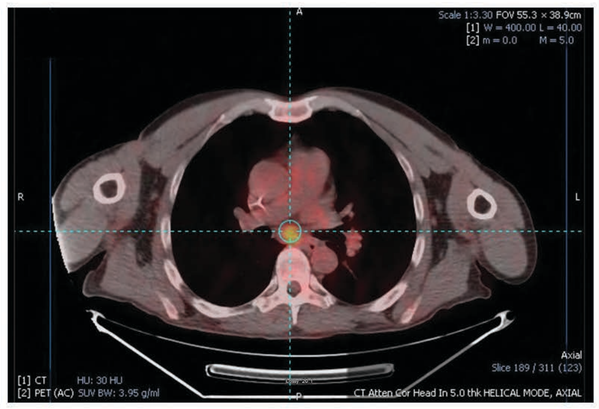


The initial follow up PET scan showing FDG avid areas in the right paratracheal and subcarinal tissue representing pericardial involvement of Kaposi sarcoma



The repeat PET scan after 3 months showing diminished metabolic activity in previously seen right paratracheal and subcarinal region

The initial follow up PET/CT scan showing FDG avid areas in the subcarinal tissue representing pericardial involvement of Kaposi sarcoma



The repeat PET/CT scan after 3 months showing diminished metabolic activity in previously seen subcarinal region