Background and Purpose

Sipuleucel-T is a therapeutic vaccine for metastatic hormone-refractory prostate cancer with rare reports of cardiotoxicity. This case highlights a patient who developed suspected cardiomyopathy (CMO) following sipuleucel-T.

Case Description and Outcomes

A 64 year-old male with a medical history of stage IV prostate cancer status post taxotere and enzalutamide in 11/2018 presented to the hospital with dyspnea 15 days after his first infusion of sipuleucel-T in 06/2019. Echocardiogram showed an EF of 35% and GLS of -9%. Cardiac MRI revealed LGE with a mottled mid wall pattern in the distal septum and basal inferolateral walls. Coronary angiogram showed no occlusive CAD. He was treated with guideline-directed medical therapy (GDMT) and completed sipuleucel-T in 07/2019. He presented in 09/2019 with dyspnea and palpitations found to be in heart failure with atrial fibrillation.

Discussion

As the etiology of the patient's CMO was not determined, an endomyocardial biopsy was pursued which showed chronic inflammation. Inflammatory cells were highly positive for CD4+ and CD8+ T cells. Cardiac adverse events from sipuleucel-T are extremely rare however our findings raise suspicion for sipuleucel-T-related CMO. The patient was continued on GDMT with close outpatient follow up. Conclusion: In the current era of advancing chemotherapy, a heightened awareness of cardiotoxicity from immune-based treatment is necessary to employ multimodality imaging and consideration of endomyocardial biopsy if unrevealing.

References

Anassi E and Ndefo UA. Sipuleucel-T (Provenge) injection: the first immunotherapy agent (vaccine) for hormone-refractory prostate cancer. PT 2011;36(4):197-202
Figure 1. Cardiac MRI 4-chamber view (left) and short-axis view (right) demonstrating late gadolinium enhancement with a mottled mid wall pattern in the distal septum and basal inferolateral segment. (A-C) Endomyocardial biopsy showing focal inflammatory infiltrate (A) that is positive for CD8+ (B) and CD4+ (C) T-cells.