

Control Number: 46

Abstract Category: Clinical Case Challenge in Cardio-Oncology

Title: A Case of Crackles

ABSTRACT BODY

Background and Purpose

To discuss management of heart failure in child with ALL

Case Description and Outcomes

Our patient is a 4 year old male with pre B cell acute lymphoblastic leukemia diagnosed at 10 months of age complicated by extramedullary relapse and severely depressed cardiac function likely due to ischemic cardiomyopathy. Initial treatment included the ALL0631 protocol. One month after completion of therapy he relapsed with orbital disease and received CNS directed therapy with AAL11331 protocol and cranial radiation. He achieved remission and was transitioned to maintenance chemotherapy. He received 160 mg/m² of daunorubicin and 20.32 mg/m² of mitoxantrone. His maintenance chemotherapy included methotrexate, mercaptopurine, and vincristine. Approximately 18 months later, he developed crackles and fevers, initially thought to be due to upper respiratory infection, but CXRs revealed cardiomegaly. ECHO showed severely depressed biventricular function with LV wall motion abnormalities. He was also found to have troponin leak with peak of 2.06 ng/ml and ST elevations in anterolateral, precordial, and inferior leads. Cardiac MRI demonstrated globally hypokinetic & dilated LV with LVED of 27%; severe LV hypokinesis; transmural delayed enhancement involving inferior LV wall and inferior RV wall; and mild RV dilation with moderately depressed function. Cardiac catheterization demonstrated LPCW of 14mmHg and normal coronary artery anatomy. Endomyocardial biopsy demonstrated myocardial necrosis, granulation tissue and no evidence of leukemia (Image 1). Hospital course was complicated by VT progressing to acute heart block for which he had epicardial dual chamber ICD placed. Infectious, metabolic, and rheumatologic workup are negative. Heart failure was determined to be due to ischemic cardiomyopathy. Oral anti-congestive heart failure regimen was attempted but symptoms progressed and he has required inotropic support with milrinone. Due to reassuring prognosis given by oncology team, patient was listed for heart transplant. However, he continues to have coarse crackles despite 6 months of milrinone and aggressive diuresis. Chest CT and lung biopsy are concerning for interstitial lung disease (image 2) so patient has been made status 7 as we wait for further pulmonology evaluation.

Discussion

I would be very appreciative of any insights into this difficult case in terms of etiology of his cardiomyopathy, management of heart failure, and heart transplantation.

References

N/A

Image 1

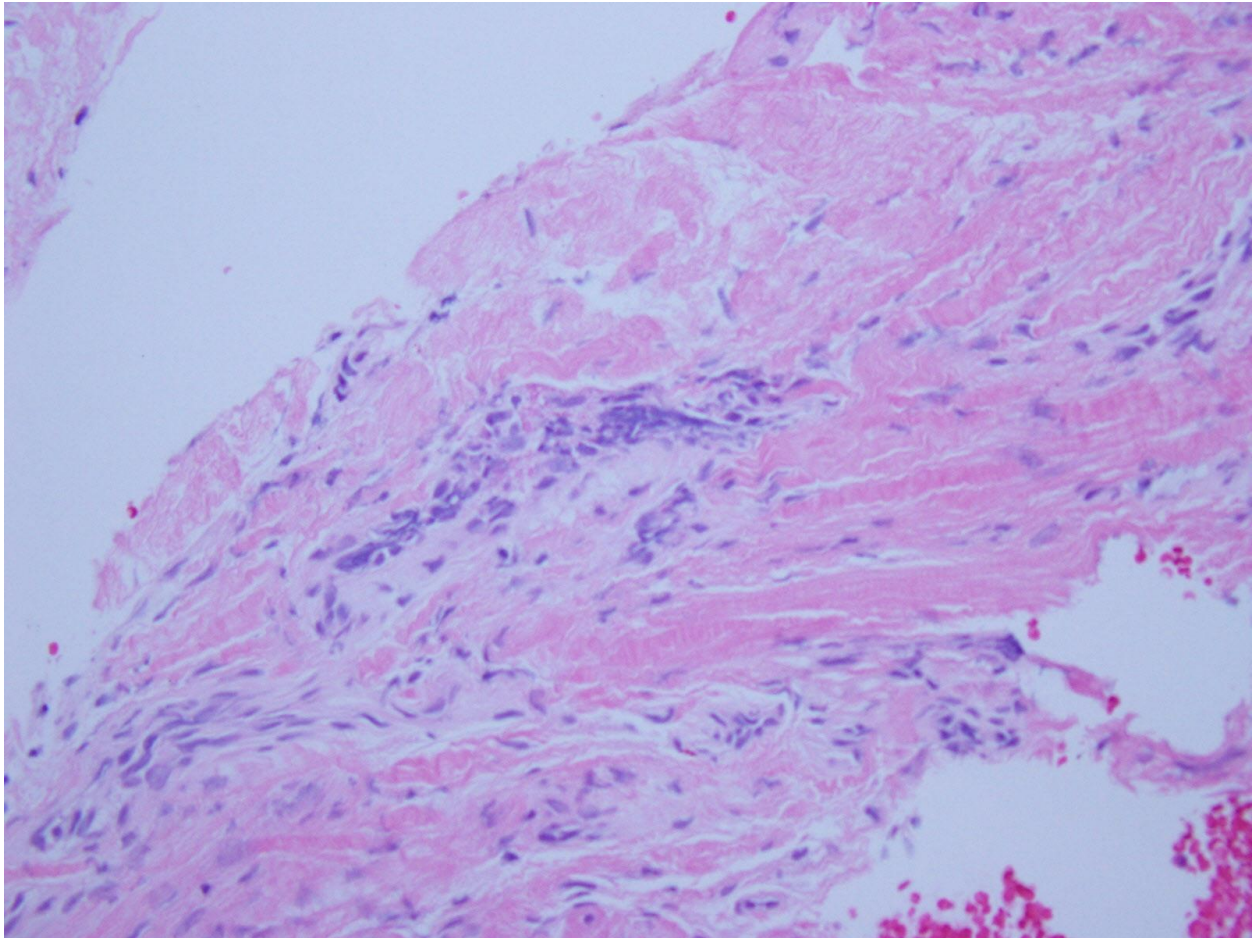


Image 2

