Control Number: 56

Abstract Category: Clinical Science in Cardio-Oncology

Title: Referral Patterns to a Cardio-Oncology Clinic Prior to Stem Cell Transplantation

ABSTRACT BODY

Background

Stem cell transplant (SCT) is used to treat various hematologic malignancies, but carries potential for adverse cardiac events as a result of the myeloablative regimen or physiologic and immunologic stressors inherent in the procedure. Cardiac testing is often used before SCT to risk stratify patients; however, there is scarce data on optimal methods for pre-SCT cardiac risk assessment and mitigation.

Methods

This was a retrospective, observational study using an existing database of adult patients referred to a cardio-oncology clinic for risk stratification prior to SCT over a 3.5 year period. Database and chart review were used to determine whether cardio-oncology consultation altered the patient's treatment course in the form of additional cardiac testing, medication changes, delay in timing of SCT, and/or all-cause mortality in the first 100 days following SCT.

Results

A total of 28 patients were referred for pre-SCT cardio-oncology consultation at our institution over a 3.5 year period. The most common reason for referral (n=11) was decreased LVEF found on screening echocardiogram, followed by other abnormal echocardiographic findings (n=6), prior cardiac history (n=6), and abnormal findings on ECG, including arrhythmia (n=5). The majority of patients (n=16, 57%) had no additional cardiac testing ordered. Three patients had delayed SCT based on increased cardiac risk. Twelve patients were prescribed new cardiac medications prior to SCT. Of the patients seen in cardio-oncology clinic prior to SCT, three died within the first 100 days of transplant; no death was attributed to a cardiac cause.

Conclusion

Decreased LVEF was the most common reason for cardio-oncology referral prior to SCT, but the indications for referral included a wide spectrum of existing cardiac diagnoses. Cardio-oncology consultation resulted in additional tests and/or new medications in a minority of patients, with the majority of patients proceeding to SCT without experiencing treatment delays or cardiac complications in the first 100 days following SCT.

Clinical Implications

This study adds to the existing body of literature suggesting that patients with existing cardiac disease can proceed with SCT with acceptable cardiac risk. The role for specific additional cardiac tests or directed medical therapies in mitigating the risk of adverse cardiac events during SCT remains unclear and further studies are needed to advance clinical practice.

Table

Table 1	
Demographic data and cancer diagnosis (N=28)	
Age	Range 19-77, average 60
Gender	60% male, 40% female
Cancer diagnosis	Multiple myeloma (n=15) T-cell lymphoma (n=2) Myelodysplastic syndrome (n=2) Acute lymphoblastic leukemia (n=2) Hodgkin lymphoma (n=2) Large B-cell lymphoma (n=2) Acute myelogenous leukemia (n=1) T-cell prolymphocytic leukemia (n=1)

Image 1

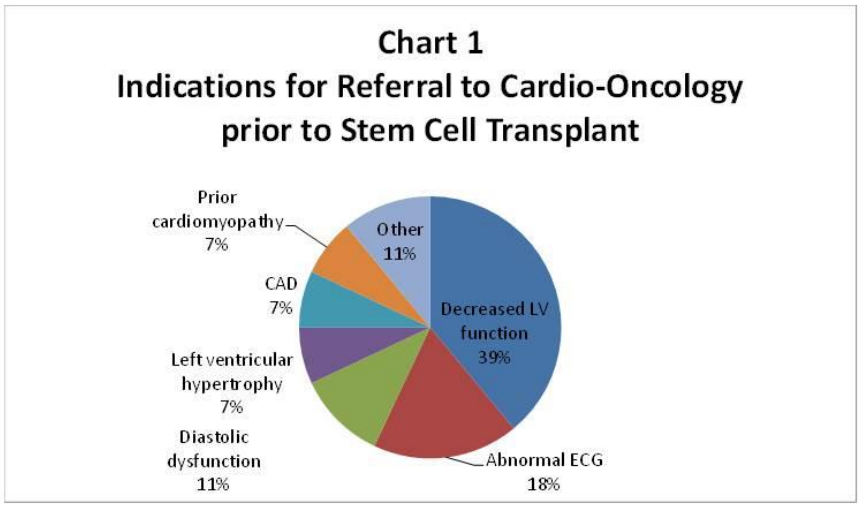
Chart 1
Indications for Referral to Cardio-Oncology prior to Stem Cell Transplant
Prior cardiomyopathy 7%
Other 11%
CAD 7%
Decreased LV function 39%
Left ventricular hypertrophy 7%
Diastolic dysfunction 11%
Abnormal ECG 18%

Image 2

Figure 1
SCT and Potential Cardiotoxic Effects