ANTHRACYCLINE CARDIOTOXICITY IN PATIENTS WITH ACUTE MYELOID LEUKEMIA UNDERGOING INTENSIVE THERAPIES: A PILOT STUDY OF THE EVALUATION OF CURRENT STANDARDS IN CARDIOVASCULAR RISK ASSESSMENT, MONITORING, AND MANAGEMENT

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Introduction: Cardiotoxicity from anthracyclines during treatment for acute myelocytic leukemia (AML) remains a significant factor in overall mortality. Close monitoring of cardiac function and risk factor management is crucial for early recognition and treatment, although not mandated by current guidelines.

Hypothesis: We sought to evaluate the current cardiac work-up, monitoring, and treatment practices at our institution.

Methods: 92 patients with AML who received induction anthracycline chemotherapy between January 1, 2009 and December 31, 2015 were studied. Anthracycline cardiotoxicity was defined according to the American Society of Echocardiography and European Association of Cardiovascular Imaging guidelines, as a decrease in the left ventricular ejection fraction (LVEF) of >10%, to a value <53%.

Results: The mean age was 55 years and 35.9% were females. Overall, 16 (20.5%) of the 78 patients who received post-chemotherapy imaging met criteria for cardiotoxicity. Of these patients, 6 (37.5%) were initiated on an angiotensin converting enzyme inhibitors or angiotensin receptor blockers, 8 (50%) on a beta-blocker, and 7 (43.8%) on a diuretic. Nine (56.2%) did not have cardiology follow up. Patients with cardiotoxicity had a higher incidence of major adverse cardiac events.

Conclusion: Not all patients who met criteria for cardiotoxicity with left ventricular dysfunction (LVD) were initiated on optimal heart failure medications nor seen by a cardiologist. The implementation of a standard protocol for cancer patients receiving cardiotoxic medications may enable better detection and early management of LVD before the onset of clinical heart failure.

Table 1: Cardiac management and outcome of patients post-chemotherapy.

	All Patients (n=92)	Patients who developed anthracycline cardiotoxicity (n=16)
Medications started post-chemotherapy in setting of decreased LVEF		
ACEI, n (%)	7 (7.6)	6 (37.5)
BB, n (%)	11 (12)	8 (50)
Diuretic, n (%)	8 (8.7)	7 (43.8)
Cardiologist evaluation		
Pre-chemotherapy, n (%)	7 (7.6)	2 (12.5)
During chemotherapy, n (%)	7 (7.6)	2 (12.5)
After chemotherapy, n (%)	10 (10.9)	5 (31.2)
Never, (n%)	72 (78.3)	9 (56.2)
MACE		
Acute myocardial infarction	1 (1.1)	0 (0)
Acute heart failure	13 (14.1)	8 (50)
Arrhythmia requiring treatment	12 (13.0)	4 (25)
CVA or TIA	1 (1.1)	0 (0)
Death	34 (40.0)	8 (50)