

Heart Failure

THE RELATIONSHIP BETWEEN DEPRESSED LEFT VENTRICULAR FUNCTION BY CARDIAC MRI AND TRADITIONAL CARDIOVASCULAR RISK FACTORS IN PATIENTS EXPOSED TO ANTHRACYCLINES

Poster Contributions

Poster Sessions, Expo North

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Background: Anthracyclines are associated with significant cardiotoxicity. Cardiac MRI (cMRI) is an ideal tool to assess cardiac structure and function. The association of traditional risk factors with LV dysfunction in patients exposed to anthracyclines has not been well-described.

Methods: Data was retrospectively collected on 98 adult patients with a history of anthracycline exposure followed at a tertiary care academic medical center who had a cMRI between 2003 and 2011. Patients were divided into quartiles of LVEF and associations of clinical variables with LVEF were assessed.

Results: In univariate analysis, lower LVEF was associated with older age ($p=0.002$), higher BMI ($p=0.013$), higher HgA1C ($p=0.007$), higher prevalence of diabetes (DM) ($p=0.003$), breast cancer ($p=0.003$), and midwall delayed enhancement ($p=.028$). There were no significant associations between total cholesterol, HDL-C, creatinine, smoking, or coronary artery disease history and LVEF. In this population, HgA1C accounts for 28% of the variation in LVEF (Figure 1). In linear regression models adjusted for age and HgA1C, HgA1C was the only significant risk predictor of LVEF (beta estimate -3.8 , $p=0.0046$).

Conclusions: In patients exposed to anthracyclines, increasing HgA1C, a marker for hyperglycemia and DM, is strongly associated with reduced LVEF. Further studies are needed to assess the impact of traditional risk factors on depressed LVEF in patients exposed to anthracyclines.

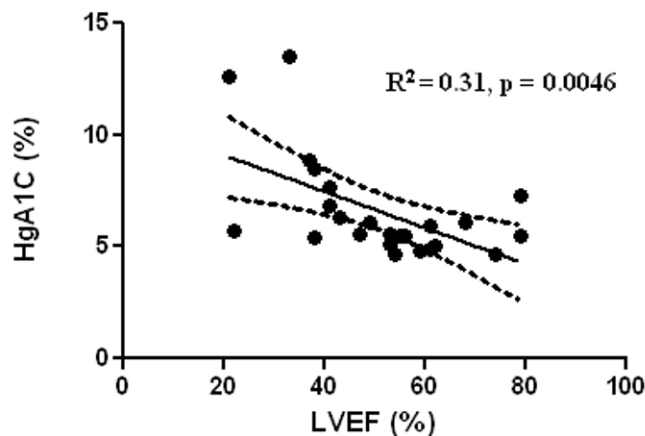


Figure 1. Relationship between Hemoglobin A1C (HgA1C) and left ventricular ejection fraction (LVEF).