

P-136

Growth-differentiation factor-15 and Tissue Doppler imaging in Detection of Asymptomatic Late-Onset Anthracycline Cardiomyopathy in Childhood Cancer Survivors

*Arslan D., Cihan T., Köse D., Vatansev H., Çimen D., Köksal Y., Oran B., Akyürek F.
Selcuk University Medical Faculty, Konya, Turkey*

Abstract

Introduction

Anthracyclines (ANT) are potent drugs in the treatment of cancer. Anthracycline cardiotoxicity can manifest anytime, from the start of chemotherapy to decades after its completion.

Both Doppler tissue imaging and speckle-tracking echocardiography results correlate well and appear to be more sensitive than standard echocardiography in detecting subclinical anthracycline cardiotoxicity. Growth differentiation factor-(GDF-15)15 is a distant member of the transforming growth factor- β cytokine superfamily. Serum GDF15 level is an independent risk factor for development of cardiovascular events and are predictive of recurrent myocardial infarction and death from pulmonary embolism.

The aim of this study was to evaluate the value of plasma levels of GDF-15 and Tissue Doppler imaging (TDI) in detection of late myocardial dysfunction in survivors of childhood cancer treated with anthracyclines.

Methods

Thirty-eight children who received ANT chemotherapy (ANT dose: 100-375 mg/m²) and were followed up for average 34 months (11-82 months) were enrolled. 2DE with aspects of conventional indexes and tissue Doppler imaging (TDI) were performed. Serum levels of GDF-15, troponin I were measured. Twenty-six healthy children served as the control group.

Results

There were no significant differences in conventional indexes of 2DE and troponin I levels between the ANT and the control groups. Among diastolic parameters showed in significant differences between the patient and the control group. Growth differentiation factor 15 was significantly elevated in patient group as compared with control group ($p < 0,05$).

Conclusions

The heart function of patients who received ANT chemotherapy needs to be monitored for a long term. TDI and GDF-15 level can be used as early indexes for monitoring the heart function.