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Early identification of subtle left ventricular dysfunction among asymptomatic survivors of childhood acute myeloid leukemia: Insights from the novel three dimensional speckle tracking echocardiography

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Aim: To assess the value of novel three dimensional (3D) echocardiography and 3D speckle tracking echocardiography (3D-STE) for early detection of subtle LV myocardial dysfunction in asymptomatic survivors of childhood myeloid leukemia after anthracycline therapy.

Methods: Thirty five survivors of childhood acute myeloid leukemia (mean age 13.5±4.4 years) treated with anthracycline and 23 age-matched controls were studied. The mean period of follow up after anthracyclines therapy was 2.3±1.5 years. All patients and control underwent 3D echocardiography and 3D-STE to assess global longitudinal (GLS), circumferential (GCS) and area strain (GAS).

Result: Compared to controls, patients had reduced GLS (16±3.11 vs. 18.30±2.38%, p=0.006), and area strain (24.29±4.12 vs. 26.78±2.64 0.015, p=0.015). No significant statistical difference was found between patients and control regarding GCS.

Conclusions: 3D-STE enables assessment of the deleterious effect of anthracyclines on the longitudinal myocardial deformation thus providing a novel tool for early detection of subtle LV dysfunction in childhood myeloid leukemia survivors.

Biography

Seliem Z S has completed her MD from Cairo University and Post-doctoral studies from Faculty of Medicine, Pediatric Hospital, Cairo University. She is the Former Head of Pediatric Cardiology Department, Postoperative Cardiac ICU as well as Cardiomyopathy Clinic in the Pediatric Hospital, Cairo University. Currently, she is the Head of Cardiology Department in Children Cancer Hospital, the biggest pediatric health facility for cancer in Egypt and Middle East. She is the Principal Investigator of the project for creating Egyptian Center of Excellence for Pediatric Cardiology in the Children Hospital Cairo University, the biggest health facility in Egypt.

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