AC008

Adult Cardiology & Clinical Cardiovascular Medicine • Poster Presentation

# ECHOCARDIOGRAPHIC ASSESSMENT OF RIGHT VENTRICULAR FUNCTION IN STABLE ADULT SICKLE CELL ANAEMIA PATIENTS

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Background: Sickle cell anaemia (SCA) causes intravascular haemolysis, ischaemic reperfusion injury and progressive multiple end-organ dysfunction including ventricular dysfunctions and pulmonary hypertension (PH). Echocardiography can be used to detect subclinical features of these myocardial derangements in SCA patients. Objective: To assess the right ventricular systolic and diastolic functions in adult patients with SCA.

Methodology: This was a hospital-based cross-sectional echocardiographic study conducted from March 2023 to February 2024. Through a simple random sampling method, 113 adult SCA patients were recruited, and age, sex-matched with haemoglobin AA controls drawn from UNTH community. Data of the demographics and preliminary investigations were recorded. Right ventricular parameters TAPSE, S?, E/A ratio, E/E? and pulmonary artery systolic pressure were obtained. Data was analysed using SPSS version 26.0.

Results: The mean TAPSE was 25.6 ± 4.9 mm, and the mean peak systolic velocity of the tricuspid annulus (S'), 16.3 ± 3.0 cm/s, were higher in patients compared to controls, 22.8 ± 3.9 mm and 14.2 ± 2.6 cm/s, respectively (p = 0.001). Mean values of right E/A ratio, 1.7 ± 0.4, and E/E' ratio, 4.7 ± 1.7, in patients were significantly higher compared with controls, 1.6 ± 0.2 and 4.6 ± 1.1, respectively. Prevalence of right ventricular diastolic dysfunction was 22.1% and higher in SCA patients. About 15.9% of SCA patients had pulmonary hypertension.

Conclusion: The prevalence of right ventricular diastolic dysfunction was 22.1% in SCA patients in Enugu. Routine echocardiography screening is recommended for SCA patients.

**Keywords:** Sickle cell anaemia, echocardiography, right ventricular dysfunction, pulmonary hypertension.