

**EVALUATION OF VENTRICULAR FUNCTION WITH TISSUE DOPPLER
ECHOCARDIOGRAPHY IN CHILDREN WITH OBESITY**

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Objective: To evaluate the ventricular function of obese children with Tissue Doppler Echocardiography (TDE).

Patients and Methods: 30 children whose body mass index (BMI) were above +2 standart deviation score (SDS) by age and sex were examined by 2-D, M-mode, Doppler and TDE methods. Systolic and diastolic functions, and myocardial contraction and relaxation velocities by TDE were determined. Myocardial velocities were measured in apical four chamber view in basal regions. The echocardiographic variables were compared with age-matched control group.

Results: Age range in the obese group was 5.9-16.5 years (mean 10.8 ± 3.3) and body weights were between 28 and 104 kg (mean 58.6 ± 21.1). Mean BMI was 26.9 ± 4.2 kg/m² and mean BMI SDS was 5.5 ± 2.0 . Five patients had an ejection fraction slightly below 60% and shortening fraction slightly below 30% but the whole group did not significantly differ from the controls. Mitral E and A velocities and myocardial contraction and relaxation velocities were not significantly different in two groups. The left ventricular posterior wall systolic thickness and end-diastolic volume were significantly greater in obese children than the controls.

Conclusion: Left ventricular hypertrophy and volume overload as evidenced by increased left ventricular posterior wall thickness and end-diastolic volume were present in our patients. However the systolic and diastolic functions examined by M-mode and TDE were preserved.

