

Left ventricular mechanics are affected in children with celiac disease - a study of 2D speckle tracking echocardiography

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Background: Cardiomyopathy associated with celiac disease is reported, though not frequently. We aimed to examine the effect on cardiac mechanics in children with celiac disease (CD) by 2D speckle tracking echocardiography (2DSTE).

Methods: Eighty-one children with CD were compared with a control group of 51 healthy children by an echocardiographic examination. Children with CD were divided into two different groups: Group 1- positive serum anti-tissue transglutaminase antibody (n= 48), and Group 2- negative serum anti-tissue transglutaminase antibody (n= 33). Cardiac functions of all the children were evaluated by conventional, tissue-Doppler imaging (TDI) and 2DSTE methods.

Results: The mean ages and male/female ratio of children with CD were 10.1 ± 4.0 years and 26/55 (67% female) and were not different from controls. Patients were diagnosed at a mean age of 7.9 ± 4.1 years and mean follow-up time was 2.37 ± 2.98 years. Conventional echocardiography and tissue Doppler measurements did not differ between groups. The left ventricular longitudinal and radial strain and strain rate values were significantly lower in children with positive serum anti-tissue transglutaminase antibody (group 1) when compared control group.

Conclusions: Our results suggest that left ventricle longitudinal and radial myocardial deformation is decreased in children with coeliac disease who have positive serum anti-tissue transglutaminase antibody. Further follow-up is necessary to precisely determine the clinical significance of these myocardial changes detected by 2DSTE in children with CD.