Assessment of cardiac functions and aortic stiffness indexes with tissue Doppler echocardiography in Familial Mediterranean Fever patients

Pamukkale University Faculty of Medicine, Department of Pediatric Cardiology (1) and Pediatric Nephrology (2), Denizli, TURKEY

Familial Mediterranean Fever (FMF) is an autosomal recessive autoinflammatory disease, characterized with recurrent fever, abdominal pain, chest pain and joint involvement. Cardiovascular involvement can be seen secondary to chronic inflammation. This severe outcome is a major cause of morbidity and mortality in FMF patients. There are a few studies investigating cardiovascular involvement in FMF patients. This study is conducted in order to assess possible cardiac involvement in FMF patients using electrocardiogram, conventional and tissue Doppler echocardiography.

The study population included 75 patients with FMF and 50 healthy children. There are no significant differences between the two groups in age, height, sex, body mass index, arterial blood pressure parameters (p>0.05). QT and QTc dispersion parameter, which shows ventricular repolarization homogeneity in the two groups were similar (p>0.05). Left ventricle end-diastolic (LVd) and end-systolic diameters (LVs), left ventricle posterior wall thickness (LVPWd, LVPWs) and interventricular septum thickness (IVSd, IVSs) and left ventricle mass (LVM), left ventricle mass index (LVMi) and relative wall thickness (RWT), LV ejection fraction and fractional shortening time, RV ejection fraction and fractional shortening time parameters assessed with conventional echocardiography in FMF patients were similar to the parameters in control group (p>0.05). While mitral valve maximum E wave velocity and E/A ratio and tricuspid valve maximum E wave velocity and E/A ratio were found to be decreased, tricuspid valve maximum A wave velocity was found to be increased by standart Doppler echocardiography in FMF patients (p<0.05). Left ventricle Sdm, Edm, Edm/Adm were decreased and Adm was increased, right ventricle Sdt, Edt, Edt/Adt were decreased and Adt, Dtd, IRdt were increased, interventricular septum Edivs, Edivs/Adivs were decreased and Adivs was increased by the measurements made by tissue Doppler echocardiography in FMF patients (p<0.05). While aortic systolic and diastolic diameters were similar in both groups (p>0.05), aortic strain and distensibility were decreased and Ep, Ep*, stiffness parameters were increased in FMF patients (p<0.05).

Our findings show cardiac involvement can exist in FMF patients even during non-attack period.