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P wave duration and dispersion in children with uncomplicated FMF

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Abstract

Introduction

Familial Mediterranean fever (FMF) is an autoimmune disease inherited as an autosomal recessive trait and is characterized by recurrent attacks of fever and sterile polyserositis. Cardiovascular involvement is one of the leading cause of morbidity and mortality among FMF patients. A recent study found that FMF patients had an abnormally high P wave duration (Pdu) and P wave dispersion (Pdi), markers for supraventricular arrhythmogenicity.

The aim of our study was to further evaluate atrial dispersion and its relationship with systolic and diastolic ventricular functions in children with uncomplicated FMF.

Methods

The study group consisted of 25 children with uncomplicated FMF and age- and sex-matched 25 healthy controls. We performed electrocardiography with Doppler echocardiography on patients and controls. All participants underwent 12-lead electrocardiography under strict standards. The P-wave dispersion was calculated as the difference between maximum and minimum P-wave durations.

Results

There were no significant differences between the groups regarding age, weight, height, systolic and diastolic blood pressures, heart rates, C-reactive protein.

While systolic functions were in normal range, some of the diastolic function parameters were impaired in patients with familial Mediterranean fever during childhood. The P-wave dispersion of the patients with FMF was significantly greater than that of the controls group ($p < 0,05$)

Conclusions

P-wave dispersion was higher in the children with FMF than in the healthy control subjects. Increased Pdi and Pdu in our uncomplicated FMF children might be related to depression of intra-atrial conduction due to atrial dilatation and increased sympathetic activity. These children should be closely followed up for risk of life-threatening arrhythmias.