Kawasaki disease and familial mediterranean fever gene mutations, is there any link?

Abstract

Background and objective: Kawasaki disease (KD) is an acute febrile, self-limiting, and systemic vasculitis of unknown etiology. MEFV gene has a major role in autoinflammatory disorders and innate immune reactions. Several reports revealed that MEFV gene mutations are associated with systemic vasculitis. The aim of this study was to determine the association between KD and MEFV gene mutations.

Methods: The peripheral blood of 30 patients who were diagnosed with KD based on ACC criteria were collected and the samples screened for the 12 common pathogenic variants according to manufacturer's instructions.

Results: The mean age of patients (13 females and 17 males) was 7.7 years. Ten percent of patients showed a mutation, that was meaningfully ($p<0.05\%$) lower than that of healthy controls (25%). E148Q was shown in two patients and compound heterozygous (E148Q-M680I) was detected in one of them with lack of FMF presentations. No significant and meaningful associations were detected between the MEFV gene variant alleles and KD.

Conclusion: Unlike in other types of pediatric vasculitis, this study did not reveal any significant association between the MEFV gene mutations and KD, moreover, because of the lower frequency of mutations in these patients, it seems that this gene has a modifier and/or protective role in KD.

Key Words: FMF, vasculitis, MEFV gene, Kawasaki disease