Pediatric Rheumatology

Poster presentation

Macrophage migration inhibitory factor gene polymorphisms in an Italian cohort of patients with Kawasaki disease

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Background

MIF (macrophage migration inhibitory factor) is a proinflammatory cytokine regulator of host inflammatory and immune responses, and is expressed by many different cells types. Serum levels of MIF have been found to be increased in several inflammatory diseases, Kawasaki disease (KD) included.

Objective

To evaluate possible differences in MIF polymorphisms between patients with KD and healthy subjects, and between KD patients with and without coronary alterations. Methods. We screened for the MIF gene polymorfisms -173 a group of 69 patients discharged from our hospital with a diagnosis of Kawasaki disease and 60 healthy controls.

Results

The average age at disease onset was 29 months (range, 3–135 months). There were 43 females (33.3%) and 26 (20.2%) males. Eight children (12%) were non-responders to the first IVIG infusion. Nine children (13%) had coronary alterations (ectasia or aneurysms). Statistical analysis for MIF genotyping did not show significant differences between patients and controls, both for allelic and genotypic frequencies. However KD patients carrying a MIF -173*C allele developed CAA more frequently than those without these alleles (7/9 77.8% *vs* 16/44 26.7%, $p < 0.005$) and the MIF -173*CC homozygosis resulted more frequent in children with CAA than those without (2/9 CC 22.2% *vs* 2/60 CC: 3.3%, $p < 0.004$). Moreover, non-responders to a single IVIG infusion carried the MIF -173*C allele more frequently than responders (6/8 = 75% vs 17/61 = 28%, $p < 0.014$).

Conclusion

Our study suggest a potential relationship between a MIF polymorphism and risk of CAA in KD.