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Poster presentation

Profile of cytokines, growth factors and chemokines during attacks of FMF

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Attacks of Familial Mediterranean fever (FMF) represent one of the most devastating states of inflammation. FMF is an autoinflammatory disease caused by mutations in the gene coding for pyrin. We aimed to assess the characteristics of inflammation in FMF patients during an acute attack by evaluating some growth factors, chemokines and cytokines.

Six patients (median 11 years (7–16)) were sampled 12–36 hour after the onset of a typical FMF attack. All had elevated acute phase reactants. All six had homozygote mutations in the MEFV gene. Various cytokines, chemokines, growth factors and CD40 ligand were measured by a commercially available multiplex beads immunoassay based on Luminex platform. IL1Ra (median 1047 pg/ml), TNF alpha (median 3.05 pg/ml) and IL6 (median 19.14 pg/ml) levels were elevated whereas IL2, IL10, IL12, IL17 and IL13 were not detectable in any of the samples. EGF, VEGF and HGF were markedly elevated as well. Among the chemokines, MIP1b, CCL11, CXCL11 and CXCL5 were all detectable at a varying range. CD40 L was also markedly elevated.

IL1Ra is induced by inflammatory stimuli with IL1 and reflects the IL1-dependent inflammatory response. Chemokines were elevated reflecting the neutrophil inflammation and recruiting in this disease. The growth factors were thought to be elevated as an inflammatory response phenomena. The CD40L induction may be serving as a link between the innate immune response and adaptive on during the attacks of FMF.

The protein fingerptint of FMF will shed light on the pathogenesis of the disease and help us guide disease activity and severity.