

**Interleukin-1 β -511 and interleukin-6 gene polymorphisms in children
with febrile seizures**

Thesis

Submitted for partial fulfillment of MD degree in Pediatrics

By

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Abstract

Background: Febrile seizures (FS) is the most common form of seizures (2-5%) during childhood. It was assumed that genetic factors play an important role in pathogenesis of FS. Cytokines play an important role in generating fever and FS.

Aim of the work: to determine whether interleukin-1beta-511 promoter polymorphism (IL-1 β -511 C/T) and IL-6 gene polymorphism (_597), contribute to the susceptibility of FSs.

Patients and methods: A cross-sectional case-control study was conducted on 80 children. It included 49 patients with FS and 42 healthy control subjects. They were subjected to full medical history, general and neurological examination, E.E.G., IL-1 β (_511) polymorphism and IL-6 (_597) polymorphism genotyping by PCR-RFLP (Restriction fragment length polymorphism).

Results: twenty patients (40.8%) had age of onset between 1-2 years old. Twenty-six patients (53.1%) had complex FS. IL-1 β (_511) gene polymorphism and IL-6 (_597) gene polymorphism were more statistically significant in FS. IL-1 β (_511) gene polymorphism was more sensitive specific and accurate in FS than IL-6 (_597) gene polymorphism.

Conclusion: Our data support the contention that interleukin-6 and Interleukin-1 β single-nucleotide polymorphisms play a role in the etiopathogenesis of febrile seizures. Neither Interleukin-1 β (_511) gene polymorphism nor interleukin-6 (_597) gene polymorphism is affected by type of FS (whether simple or complex)

Keywords: Febrile convulsion, IL-1, IL-6, simple and complex FS.