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Detection of expression of IL-18 and its binding protein in Egyptian pediatric idiopathic Thrombocytopenic purpura

Iman A. Shaheen
Beni-Suef University, Egypt

Idiopathic thrombocytopenic purpura (ITP) is an autoimmune disorder, characterized by dysfunctional cellular immunity including the presence of activated platelet specific autoreactive T cells that recognize and respond to autologous platelet antigens. Autoreactive T cells drive the generation of platelet reactive autoantibodies by B cells as well as T- cytotoxic cell mediated lysis of platelets. Interleukin-18(IL-18) is a mediator of T helper type 1 cell responses synergistically with IL-12 that initiates and promotes host defense and inflammation. IL-18 has a specific binding protein (IL-18BP) which belongs to the immunoglobulin superfamily. In the present study, serum level and messenger RNA(mRNA) expression in of IL18 as well as IL-18BP mRNA were measured inperipheral blood mononuclear cells (PBMNCs) of 100 Egyptian pediatric ITP patients (70 acute and 30 chronic) in addition to 80 healthy controls in order to investigate the possible association between the imbalance in IL-18 and IL-18 BP expression and the pathogenesis of ITP.IL-18 serum level and mRNA expression were not elevated in cases than control, butIL-18 mRNA was higher in chronic cases when compared to the acute cases (p= 0.031) and there was a good negative correlation between the platelet count and serum IL-18 .IL18 BP m-RNA was slightly elevated in cases than in controls (95% Confidence interval= 1.15 -2.01).Our results were not supportive for previous findings of elevated IL18/BP m-RNA ratio in ITP patients. This could be referred to the fact that autoimmune diseases are complex genetic disorders, further studies on polymorphisms affecting IL-18 gene expression as well as kinetics of IL-18 expression are required to further evaluate to role of interleukin 18 and its binding protein in the pathogenesis ITP.

iman.shym@yahoo.com