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Intensity of endothelium desquamation and its connection with vascular endothelial growth factor levels at hemorrhagic fever with renal syndrome

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Abstract

This study was aimed to assess the connection between intensity of endothelium desquamation and vascular endothelial growth factor (VEGF) blood level at hemorrhagic fever with renal syndrome (HFRS). A total of 118 patients (106 males and 12 females) aged 22-55 years with HFRS serologic confirmation were enrolled in this study. The moderate type was diagnosed in 61 patients, severe uncomplicated type – in 32, severe complicated type – in 33 patients. The control group consisted of 23 healthy volunteers, matching in sex and age. The circulating endotheliocytes (CEs) count was determined according to the method described by J. Hladovec, phenotype analysis of cell populations was performed using anti-CD31 monoclonal antibodies. Serum VEGF level was determined using the Bühlmann (Switzerland) kit. We have found significantly increased levels of CEs in the blood of the HFRS patients in all stages of the disease as compared to healthy controls. The severe the course of disease the higher the CEs blood levels. Serum concentrations of VEGF in course of HFRS of different severity were predominantly corresponded to level for healthy controls. We have found a weak positive correlation readings between CEs and VEGF blood levels in dynamics of HFRS of all severity types. Increased desquamation of the endothelial cells in HFRS patients with all forms of the disease suggests damage to endothelium. We did not observe increasing in expression of VEGF in HFRS patients as an expected regenerative reaction to its damage. Therefore, we believe that there is delay in reparative reaction in response to hantavirus caused damage to endothelium.

Biography

Baygildina Asiya Akhmetovna has completed her Ph.D at age of 28 years from Bashkirian State Medical University (Ufa, Russia) and postgraduate studies on speciality «Biological Chemistry» from this University. Her is associate professor of Department of Biological Chemistry (Bashkirian State Medical University, Ufa, Russia). She has published more than 30 papers in reputed journals. Field of research is pathobiochemical mechanisms of development of hemorrhagic fever with renal syndrome.