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European Stroke 2020: Endothelial progenitor cells as an early marker of cerebral vascular damage.

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Endothelial progenitor cells (EPC) play an important role in the regeneration of the nervous tissue, blood-brain barrier stabilization and in neovascularization of blood vessels damaged by stroke. The aim of the study was to assess the level of EPC in patients with acute cerebral stroke due to cerebral microangiopathy and the potential dependence with the clinical condition, radiological image and prognosis, both in the ischemic and the haemorrhagic stroke. 66 patients with lacunar ischemic stroke were included in the prospective study, 38 patients with the “loco typico” haemorrhagic stroke and 22 from the control group without acute/chronic cerebral circulatory disorders. The level of EPC was determined using flow cytometry and identified with the immune-phenotype CD45–, CD34+, CD133+ on the 1st and 8th day of stroke. It has been shown a significantly higher level of EPC on the 1st day of stroke (regardless of aetiology) compared to the control group (p=0.0006). The level of EPC on day 1 and 8 was correlated with the subgroup of patients with haemorrhagic stroke. A significant correlation was found between tle level of EPC and the volume of the haemorrhagic focus(R= -0.3378, p=0.0471) and the degree of regression of the haemorrhagic focus (R=-0.3896, p=0.0367). The study showed that endothelial progenitor cells are an early marker of cerebral vascular damage, both in ischemic and haemorrhagic stroke. The research showed the relationship between the level of EPC and the degre of regression of a haemorrhagic focus. Endothelial progenitor cells (EPC) play an important role in the regeneration of the nervous tissue, blood-brain barrier stabilization and in neovascularization of blood vessels damaged by stroke. The aim of the study

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