



Association of polymorphism in ICAM-1 (K469E) and cytology parameters in patients' initial blood test with acute ischemic stroke

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ABSTRACT. Acute ischemic stroke (AIS) has become a serious health problem in many countries because of its poor outcome and worsening epidemic trend. Early identification of genetic risk factors and physiological indicators for stroke occurrence may help to reduce the incidence of stroke. Therefore, we conducted a case-control study including 50 AIS patients and 50 healthy individuals from a Chinese population to explore the association between AIS and patient complete blood profiles and the association between AIS and the genetic polymorphism K469E in intercellular adhesion molecule-1 (*ICAM-1*). Compared to the control group, AIS patients showed a high percentage of mononuclear cells, low platelet count, low ratio of platelet to lymphocyte count, high frequency of the 469K allele, and low frequency of the 469E allele. White blood cell count, percentage of neutrophils, percentage of lymphatic cells, platelet distribution width, mean platelet volume, and platelet hematocrit levels showed

no significant differences between the 2 groups and between different genotypes. Our results suggested an association of elevated levels of mononuclear cells and reduced platelet count with higher AIS risk. Our results also supported the hypothesis that the KK genotype at the K469E locus in *ICAM-1* is a risk factor for AIS.

Key words: Acute ischemic stroke; Complete blood count; K469E; Intercellular adhesion molecule-1; Mononuclear cells