

Inflammatory parameters and their association with stroke volume and localization in acute ischemic stroke patients: a three month pilot study.

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Background: The important pathophysiological role of inflammation in acute ischemic stroke (AIS) is indisputable, although the results of recent studies concerning the relation between several inflammatory markers and stroke volume (SV) as well as localization (SL) are controversial. This pilot study was designed to assess the association of specific inflammatory parameters with SV/SL in AIS patients, based on reliable and easy to perform methods. **Methods:** Nineteen patients with AIS without signs of active infection or systematic disease were recruited from an inner-city hospital's neurology department in Athens, Greece, during a three-month period. Demographic and clinical data, mainly concerning vascular risk factors and metabolic profile, were collected. SL, supra- or infratentorial respectively, was determined by radiological findings whereas SV was estimated on Diffusion Weighted Imaging (DWI) by ABC/2 technique. Levels of C-reactive protein (CRP), White Blood Cells (WBC), body temperature (BT), ferritin and Erythrocyte Sedimentation Rate (ESR) were collected. **Results:** According to SL, statistically significant association was observed between infratentorial strokes and higher levels of CRP ($p=0.001$) and ferritin ($p=0.022$), but performing multiple regression revealed only borderline significant association ($p=0.066$) between infra- SL and CRP levels. As SV concerns, statistically significant association was observed between higher SV and elevated levels of BT ($\rho=0.712$, $p=0.001$), ferritin ($\rho=0.450$, $p=0.022$) and ESR ($\rho=0.487$, $p=0.022$), but only the correlation between SV and BT was finally confirmed by multiple regression. **Conclusion:** Our study supports the assertion that higher SV and infratentorial SL are associated with elevated inflammatory parameters in AIS and are of clinical importance.