

The relationship between the severity of disability and serum IL-8 in acute ischemic stroke patients

**Background:** Stroke is the third leading cause of death and leading cause of adult disability worldwide. Long-term disability is a significant problem among survivors; post-stroke inflammation is well known to contribute to the expansion of the ischemic lesion resulting in significant morbidity and disability. The aim of the current work is to study the impact of serum level of IL-8 on severity of disability in patients with acute ischemic stroke in the first 48 h post stroke.

**Methods:** A cross-sectional case control study was conducted on 44 patients with acute ischemic stroke (in the first 48 h). The patients were subjected to full neurological examination, computed tomography (CT) and magnetic resonance imaging (MRI) of the brain, and assessment of stroke disability using the National Institute of Health Stroke Scale (NIHSS) and modified Rankin Scale (mRS). Measurement of the serum levels of IL-8, erythrocyte sedimentation rate, and C-reactive protein (CRP) was done. Forty-four matched control subjects for their age and sex were included for comparison of serum level of IL-8.

**Results:** The level of IL-8 was significantly higher in the patients than in the control subjects ( $p < 0.001$ ). There was a statistically significant positive correlation between serum level of IL-8 and disability assessed by NIHSS ( $r = 0.42$ ,  $p = 0.004$ ). The patients with moderate disability showed significantly higher IL-8 levels than those with minor disability ( $p = 0.02$ ).

**Conclusion:** The severity of disability in early acute ischemic stroke is highly correlated to the serum level of IL-8.