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Assessment of inflammatory markers IL-6 and its relation with clinical status in stroke patients

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Introduction & Aim: Acute stroke is the most common neurological disease. Stroke is the second leading cause of mortality worldwide and is a major cause of long-term disability. Also, in occurring of inflammatory cascade, the stroke will be activated and play the main role in disease separated from them. This study was carried out to investigate the association of serum TNF-a, and IL-6 levels with clinical outcome in acute stroke.

Methods: The study involved 90 patients. 45 control and 45 patients with the first-time stroke aged 71.2±10.8 years of both sexes entered the study consecutively. Modified Rankin Scale (mRS) for stroke severity was evaluated on two months. Serum IL-6 and TNF-a level were measured by enzyme-linked immunosorbent assay (ELISA) on day 1. The association between serum TNF-alpha and Il-6 levels in stroke patients with control values and stroke outcome was evaluated by T-test (SPSS software 22). Moreover, statistical significance was defined as $P<0.05$.

Results: 90 patients with 45 stroke (14 female and 31 male) and 50 control subjects (34 male and 16 female) were included in the study. Mean serum TNF-α and IL-6 level in the control group and mean serum TNF-α level in the stroke patients group was (26.57 Pg/ml, 45.30 Pg/ml. 112.55 pg/ml, 140.02). The levels of TNF-alpha and IL-6 in serum were no significantly correlated with the volume of dysphagia ($r=.099$; $P<0.05$ and $r=.170$; $P<0.05$). However, the difference of IL- 6 levels among groups was not significant. In contrast, there was no significant association between inflammatory markers with the severity of dysphagia, MRs, and serum albumin.

Conclusion: The results of this study demonstrate that increased inflammatory markers increase the severity of dysphagia and worsening clinical status of patients. Therefore inflammatory markers can be used as reliable prognostic factors for predicting the prognosis of patients with stroke.

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