OUTCOME PREDICTION FOR SEVERE SEPSIS PATIENTS BY IL-10 IN 24 HOURS

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BACKGROUND: The IL-6 and IL-10 have been shown to be mediators associated with disease severity and mortality. However, the role of IFN-γ in severe sepsis remains unclear. This study investigated the roles of IFN-γ, IL-6 and IL-10 in the early stage of severe sepsis.

PATIENTS AND METHODS: Seventy-three consecutive patients with severe sepsis were enrolled. Plasma samples were obtained within 24 hours of patient admission. Plasma levels of IFN-γ, IL-6 and IL-10 were measured utilizing a human enzyme-linked immunosorbent assay kit.

RESULTS: The percentage of septic shock and gastrointestinal bleeding in non-survivors was significantly higher than that in survivors. The mean plasma IL-6 and IL-10 levels of non-survivors were significantly higher than that of survivors ($p=0.004$ vs. $p<0.001$). Plasma IFN-γ levels were not significantly different between survivors and non-survivors. Regression analysis showed that APACHE II score and IL-10 were independent predictors of mortality. There was also no difference in plasma IFN-γ levels between patients with and without co-morbidities. The plasma IL-6 level in patients with septic shock ($p<0.001$) or thrombocytopenia ($p=0.046$) was significantly higher than that in patients without septic shock or thrombocytopenia. The mean plasma IL-10 level in patients with shock ($p=0.001$), jaundice ($p=0.048$), thrombocytopenia ($p=0.006$) or gastrointestinal bleeding ($p=0.017$) was significantly higher than without these co-morbidities.

CONCLUSIONS: Plasma IL-10 levels on the day of admission were significantly associated with mortality in patients with severe sepsis. Plasma IL-10 level was also an independent factor in predicting mortality. Therefore, plasma IL-10 level might be considered as a part of the clinical scoring system.

Key words: interferon-gamma, interleukin-6, interleukin-10