STUDY ON THE CHANGES OF SERUM CYTOKINES IN PARAQUAT POISONING PATIENTS AND ITS RELATIONSHIP WITH PROGNOSIS

Yu Wang; Bingbing Kong; Wenping Yang; Xin Zhao

Department of Emergency, Shengjing Hospital of China Medical University, Shenyang, Liao ning 110004, P.R.China

Objectives: Paraquat (PQ) is the world's widely used herbicide, has become in many places, be the second pesticide poisoning following organophosphate poisoning. PQ poisoning main clinical features are multiple organ dysfunction syndrome (MODS) and pulmonary fibrosis, which are the main causes of death, mortality up to 70%. The pathogenesis of PQ poisoning is still at the exploratory stage, the current studies suggest that inflammatory mediators involved in MODS and pulmonary fibrosis. To explore serum TNF-α and IL-6 levels in paraquat (PQ) poisoning patients and its relationship with prognosis, as well as inflammatory mediators at the role of PQpoisoning.

Methods: 60 patients with PQ poisoning were collected from January 2011 to December 2014 in the poisoning ward. The patients were divided into the survival group (n = 18) and death group (n = 42), selected 15 cases of healthy adults as normal control group. Determination of 1,3,7 days after admission in patients with serum TNF-α and IL-6 level used by double-antibody sandwich enzyme-linked immunosorbent assay (ELASA); and acute physiology and chronic health evaluation II (APACHE II) system was used to explained the severity of illness in patients . To compare serum TNF-α and IL-6 levels among the three groups, and the APACHEII differences between the survival group and the death group.

Results: The survival group and the death group of serum TNF-α and IL-6 levels compared with the control group significantly increased, the difference was significant ($P < 0.05$); the death group of serum TNF-α and IL-6 levels were higher than those in the survival group ($P < 0.01$). APACHEII in the death group was higher than that in the survival group ($P < 0.05$); Spearman correlation analysis showed that the levels of IL-6 and TNF-α in PQ poisoning patients was positively correlated with APACHE II scoring.

Conclusions: The inflammation factor TNF-α and IL-6 involved in the pathogenesis of PQ poisoning, and can certain relevance with the condition serious degree and the prognosis.