

The study of vitamin D administration effect on CRP and Interleukin-6 as prognostic biomarkers of ventilator associated pneumonia.

Miroliaee AE¹, Salamzadeh J¹, Shokouhi S², Sahraei Z³.

Author information

Abstract

PURPOSE:

In regard with the effect of immune-stimulants in the treatment of infectious diseases, the effect of vitamin D administration on the outcome of patients with Ventilator-Associated Pneumonia (VAP) with a high rate of mortality, was studied.

MATERIAL AND METHOD:

In this trial, 46 adult patients suffering from VAP and vitamin D deficiency were enrolled. The first group of patients received single intramuscular injection of vitamin D (300000Unit), while the other group were given the placebo.

RESULTS:

Administration of vitamin D significantly enhanced its levels ($P < 0.0001$) in the treated patients (12.28 ± 8.26) in comparison with placebo group (1.15 ± 1.50). Serum Interleukin-6 levels were significantly reduced in the treated group compared to placebo ($P = 0.01$). Although C-Reactive protein (CRP) levels showed an improving trend in the vitamin D group, no significant difference between groups ($P = 0.12$) was found. Interestingly, the mortality rate of patients that treated with vitamin D (5/24) was significantly lower ($p = 0.04$) than that of the placebo group (11/22).

CONCLUSION:

Our results indicate that vitamin D administration can significantly reduce the IL-6 as prognostic marker in VAP patients, and must be considered as adjunct option in the treatment of VAP patients.