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Original Article

Effects of vitamin E administration on APACHE II Score in ARDS patients

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Abstract:

ABSTRACT

Background and purpose of the study: The acute respiratory distress syndrome (ARDS) is a common clinical disorder caused by injury to the alveolar epithelial and endothelial barriers of lung. In ARDS patients, oxidative stress is increased and plasma antioxidant levels are reduced. Vitamin E has an important role in antioxidant defense mechanisms. In this study the effect of vitamin E on decrease of APACHE II score in ARDS patients was investigated.

Materials and methods: Twenty patients [mean (SE): age = 51.2 ± 6.41 years] with ARDS were enrolled. After diagnosis based on inclusion and exclusion criteria, ten patients as treatment group received 600 IU vitamin E daily intramuscularly. Control group received normal saline as placebo. Plasma samples and Acute Physiology and Chronic Health Evaluation (APACHE) II score were obtained before administration, 4hrs and 12hrs after each intervention and repeated three days for each patient. Results were analyzed by use of an SPSS software package with a repeated-measures analysis of variance (ANOVA).

Results: Significant changes were observed in APACHE II score from first to seventh measurement (p=0.0001) in treatment group, but vitamin E concentration altered significantly in only first to seventh measurement (p= 0.019).

Conclusion: From the results of this study, it seems that the use of vitamin E as a lipid-soluble antioxidant along with other supportive measures is beneficial in decreasing APACHE II score in ARDS patients.

Keywords:

Acute respiratory distress syndrome, Vitamin E, APACHE II score, Oxidative stress

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