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## Evaluation of serum vitamins A and E and zinc levels according to the severity of acne vulgaris

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### Abstract

**Background:** Although hyperseborrhea, follicular hyperkeratinization, Propionibacterium acnes colonization and inflammation are found to be responsible in the pathogenesis of acne, the exact mechanisms are unknown. Vitamin A and E are basic antioxidants vital for health. Zinc is also an essential element for human. But these parameters of the effects on skin are not fully understood. We aimed to evaluate plasma levels of vitamin A, E and zinc in acne patients in relation to the severity of the disease.

**Material and method:** There were 94 acne patients who were referred to our clinic, all new diagnosed, and 56 age and sex matched healthy volunteers as control group. All patients are assessed according to Global Acne Grading System and grouped as mild, moderate, severe and very severe. Acne patients further grouped as group 1 consist of patients with mild to moderate disease; and group 2 consist of patients with severe to very severe acne. The patients with the controls and group 1 with group 2 was compared.

**Results:** The level of vitamin E, vitamin A and zinc were significantly lower than the control group (Table 1,  $p < 0.001$ ). When the patient group is compared among each other there was no statistically significant difference for plasma vitamin A levels between group 1 and 2 whereas vitamin E and zinc levels were significantly low in group 2 than group 1. Thus there was a negative correlation between acne severity and vitamin E and zinc levels.

**Conclusion:** Our study marks the importance of diet in patients with acne. We offer supportive dietary measures with foods rich in vitamin A and E and zinc in the acne prophylaxis and treatment. Supportive treatment with these vitamins and zinc in severe acne may lead to satisfactory results.

**Keywords:** Acne vulgaris; severity of the disease; vitamin A; vitamin E; zinc.

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