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EVALUATION OF OXIDANTS – MDA & PROTEIN CARBONYLS AND ANTI- OXIDANTS CATALASE & SOD IN PATIENTS WITH VITILIGO

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Abstract

Background: The etiology of vitiligo is still unknown and several hypothesis have been made about the pathogenesis of vitiligo, one of them oxidative stress hypothesis. Oxidative stress is a disorder in the pro and anti-oxidants balance in which pro-oxidants predominate; also it is a factor that initiates the pathogenesis of melanocyte's degeneration. **Objective:** Aim of the present study is to evaluate the role of oxidative stress in pathogenesis of vitiligo by measuring the serum levels of Malondialdehyde(MDA), Protein Carbonyls, Superoxide-dismutase(SOD) and Catalase(CAT). **Patients:** The present study was conducted on 50 patients with vitiligo and 50 age and sex matched controls. **Methods:** . The indicator of oxidative stress is determined by measuring serum levels of MDA and Protein Carbonyls. The role of antioxidant system is determined by measuring serum levels of SOD and CAT. **Results:** The mean serum levels of SOD and CAT were significantly decreased in vitiligo patients than in controls while the mean serum levels of MDA and Protein Carbonyls was significantly increased in vitiligo patients than in controls ($p < 0.0001$). **Conclusion:** Vitiligo is probably mediated through a process of oxidative stress and imbalance of oxidant-antioxidant system represented by SOD, CAT, MDA and Protein Carbonyls. The net results of this imbalance may lead to toxic melanocyte destruction.

Key Words: Oxidative stress – Superoxide Dismutase (SOD) – Catalase (CAT) – Malondialdehyde (MDA) Protein Carbonyls

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