ANTIOXIDANTS IN PATIENTS WITH DENGUE VIRAL INFECTION

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Abstract. An alteration in the oxidation/reduction (redox) status of humans infected with virus infections may contribute to the pathogenesis and clinical manifestations of the disease. Alterations in redox markers begin prior to the onset of clinical symptoms, suggesting early changes in the oxidant/antioxidant balance. Early identification of redox markers may be of clinical usefulness in the management of patients with dengue virus infection. We conducted a hospital based comparative cross sectional study of 55 patients serologically confirmed to have dengue infection and 55 clinically healthy age and sex matched subjects as controls to assess oxidative stress in acute dengue virus infection. Blood samples were drawn on the fifth day after symptom onset and analyzed for Trolox equivalent antioxidant capacity (TEAC), reduced glutathione (GSH), glutathione peroxidase (GPx) and paraoxonase (PON) activity. The results showed significantly lower levels of plasma TEAC, serum PON and erythrocyte GSH and GPx activity among dengue patients than in controls. Of the antioxidants investigated, PON appeared to be the most sensitive marker of oxidative stress in dengue virus infection. Serum PON may be a potentially useful marker of oxidative stress in patients with dengue virus infection.

Keywords: dengue, Trolox equivalent antioxidant capacity, reduced glutathione, glutathione peroxidase, paraoxonase

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