



**RELATIVE ANTIOXIDANT EFFICACY OF  $\alpha$ -TOCOPHEROL AND  
ASCORBIC ACID ON BLOOD LEAD, HEMOGLOBIN, AND  
HEMATOCRIT LEVEL OF LEAD EXPOSED**

*Rattus norvegicus* (ALBINO RATS)



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### ABSTRACT

The relative efficacy of water-soluble ascorbic acid and lipid-soluble  $\alpha$ -tocopherol on hemotoxicity caused by lead exposure were observed in rats. The experimental groups were given orally of 3 IU antioxidant treatment as vitamin C, vitamin E plus C, and vitamin E, while lead was injected subcutaneously. Blood lead, hemoglobin, and hematocrit level with the supporting red blood cell count were measured as indicators to assess the efficacy and synergistic competence of the antioxidants against lead. 1/40 sub-lethal dose lead acetate induced subcutaneously to rats produced harmful changes in blood parameters. These harmful effects, however, were lessened by antioxidant treatments. The results showed that vitamin E has better potency as compared to vitamin C as well as there was an apparent evidence of synergism between the vitamins. Although the doses were halved on vitamin E plus C treatment, still, the combination was successful in stabilizing the hemoglobin and hematocrit levels to normal. The suggested reinforcing antioxidant effect of ascorbic acid is the capacity to regenerate the active form of Vitamin E after it has reacted with lead.



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