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**Biochemical implications of administration of halofantrine hydrochloride (Halfan) on estradiol levels of female Wistar rats****Onochie A U and Alaebo P O**

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This study determines the effects of doses of halofantrine hydrochloride, a phenanthrene methanol drug used in the therapeutic treatment of malaria on the estradiol levels of female Wistar rats. A suspension of drugs at a dose of 0.2 ml/kg body weight three times at six hourly intervals were administered orally to different groups of mature female rats for 2 weeks, 4 weeks and 6 weeks duration, control groups received similar treatment doses of normal saline. The animals were sacrificed on the 14th day, 28th day and 42nd day respectively after drug administration by cervical dislocation. Whole blood samples were collected for full blood count: (WBC, RBC, PCV, Hg and platelets counts). From the plasma, hormonal level was determined by radio-immunoassay, the activities of AST, ALT, ALP, TB and CB, lipid profile test: (TC, TG, HDL-C, LDL-C) and Kidney profile test: (urea, creatinine, BCO<sub>3</sub>, Na, K and Cl) were also determined. The level of estradiol level following 2 weeks, 4 weeks and 6 weeks treatment was higher significantly ( $p < 0.05$ ) in all the groups compared to the control. The activities of AST, ALT, ALP, TB, CB, TC, TG, HDL-C, and LDL-C increased significantly ( $p < 0.05$ ). The full blood counts and kidney profile tests increased in a dose dependent manner. These findings could signify toxicity of the drugs on the bone marrow of the rats, the increase in the full blood count indicates a pathological condition and renal dysfunction for the kidney profile tests. The drug was also discovered to cause increase in the serum enzyme levels in the experimental rats, suggesting a possible hepatotoxicity of this drug.

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