

Study the Effect of Dermal Application of Stone Hair Dye on Experimental Animals

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Abstract : A commercially available Stone Hair Dye (SHD) was spread in Upper Egypt and used for dying woman's hair. Paraphenyl-diamine (PPD) is the main component of SHD and reported as a toxic substance. This work aims to study the systemic effects induced in experimental animals as a result of dermal application of SHD. 21 rats were divided into three groups, and doses of SHD and PPD were applied according to body weight (25 mg/100 g body weight) for 90 days. The results revealed that insignificant decrease in RBC count and Hb level, but there were significant increases in the WBC count, AST, ALT, GPT, and total protein while creatinine level was insignificantly increased. Hepatocytes showed a lot of degenerative changes in the form of vacuolated cytoplasm and irregular deeply stained nuclei with vascular congestion and lymphocytic infiltration, while renal affection indicated the occurrence of atrophy of glomerular capillaries, hyperplasia, and widening of bowman space.

Keywords : PPD, SHD, rats and histology, biochemistry and hematology

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