EFFECT OF A FOOD ADDITIVE ON CERTAIN HAEMATOLOGICAL AND BIOCHEMICAL PARAMETERS IN MALE ALBINO RAT

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ABSTRACT

Food additives are used for various purposes, including preservations, colouring and sweetening. Some food additives, however, have been prohibited from use because of their toxicity. Azo dyes are one of these food additives which widely used as colorants in foods. The present study was conducted to evaluate the possible influence impacts of an azo dye (allura red) on some physiological and biochemical parameters of male albino rat Rattus norvegicus. So, forty adult male rats weighing 100-110 g, were divided into 4 groups, the first and third groups were served as controls, the second group received 50 mg/kg, b.w. of allura red for 10 days and the fourth group was treated with 50 mg/kg, b.w. of allura red for 40 days. All rats groups were treated orally. The data obtained reveal a marked decrease in red blood cells (R.B.Cs) counts, haemoglobin (Hb) content; mean corpuscular hemoglobin concentrations (MCHC) of rats treated with allura red. On the other hand, a noticeable increase in haematocrit (Hct) value, mean corpuscular volume (MCV), activities of serum aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP), glucose level, serum total protein and globulin were found in rats treated with allura red.

In conclusion, it was clear that the administration of allura red to rats caused many disturbances in the physiological and biochemical parameters. Finally, more extensive assessments of azo dyes additives in general and allura red in particular is warranted.

KEYWORDS: Food Additives, Allura Red, Hematological and Biochemical Parameters, Albino Rat & Serum

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