TESTICULAR ALTERATION IN OVER DOSAGE OF AZATHIOPRINE: A HISTOLOGICAL AND HISTOCHEMICAL STUDY IN WISTAR RATS

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ABSTRACT

Aim: The use of Azathioprine (AZA) in the prevention of organ rejection during transplantation has been documented for different organs of the body. In this study, we investigated the effects of azathioprine on the integrity of the testis of Wistar rats using histological and histochemical techniques.

Methods: Eighteen adult male Wistar rats with mean weight 210±2.65 g were randomly assigned into three groups. Group I (control) received 1 ml of normal saline “per os” (p.o), group II animals received 10 mg/kg AZA (p.o) while group III animals received 20 mg/kg AZA (p.o). Treatment lasted for 21 days. Twenty-four hours after treatment, animals were sacrificed; their testes excised, weighed and fixed in Bouin’s fluid for histological evaluation using Haematoxylin and Eosin while histochemical studies were carried out using Gordon and Sweets, and Masson’s Trichrome staining techniques. Testicular homogenate was used to assay for testosterone level.

Results: Treatment with Azathioprine reduced testosterone level while the histological and histochemical findings of the testicular sections revealed cyto-architectural distortions and reduced staining intensity of collagen and reticulin connective tissue fibers in AZA treated animals compared to the control group.

Conclusion: Results from the study reveal that the immunosuppressive drug-azathioprine when used at a concentration above 10 mg/kg disrupts the testicular integrity of adult Wistar rats.

Keywords: Azathioprine, Testis, Collagen, Reticulin