

COMPARISON OF THE EFFECTS OF AZATHIOPRINE AND ITS NOVEL NON-MERCAPTOPYRINE ANALOG ON ANTIBODY RESPONSE IN RABBITS

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Azathioprine (AZA) was originally developed as a pro-drug of the cytotoxic agent 6-mercaptopurine (6-MP). It was assumed that the methylnitroimidazole (MNI) group attached to 6-MP served only as thiol protecting moiety and was pharmacologically inactive. However, in this study we confirm that the novel compound, 3-[(1-methyl-4-nitro-1H-imidazol-5-yl)thio]-4-methyl-1,2,4-triazole (MNITMT) lacking the 6-MP moiety and retaining the MNI group is a better immunosuppressive agent than AZA. Thus, administration of MNITMT (2 mg/kg/day) to rabbits for two weeks caused a statistically significant and consistent inhibition of the antibody response. The onset of immunosuppression was on day 14. However, administration of AZA (2 mg/kg/day) to rabbits for two weeks inhibited the antibody response significantly on day 60 post-treatment. The solvent used to dissolve the above-mentioned drugs had no effect on the antibody response.

Neither AZA nor MNITMT had any effect on the blood picture of the treated rabbits indicating no bone marrow toxicity.

Key words: *azathioprine, methylnitroimidazole, 6-mercaptopurine, antibody titer*

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