

Antioxidant activity of xymedone in rats with chronic autoimmune inflammation

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Abstract

© Folium Publishing House 2016. Effects of drug xymedone (in comparison to ionol) in a group of 32 white rats with experimental model of chronic autoimmune inflammation of rat paws (induced by Freund's adjuvant) were studied by measuring the volume of paw edema and determining the levels of lipid peroxidation (LPO) products and the activity of antioxidant enzymes in various tissues. Chronic autoimmune inflammation induced by Freund's adjuvant was characterized by the LPO intensification and disturbances of the level of antioxidant enzymes. Intragastric administration of xymedone (2,2-dihydro-4,6-dimethyl-N-(β -oxy-ethyl)-2-pyrimidinon) at a dose of 169 mg/kg and reference drug ionol (2,6-ditertbutyl-4-methylphenol) at a dose of 220 mg/kg increased the activity of serum antioxidant enzymes by 19% and 11% respectively, decreased the serum level of nitrite ion by 62% and 50% and reduced the levels of LPO products in rat blood and homogenates of liver, kidney and spleen by up to 80% ($p < 0.05$).

Keywords

2,2-dihydro-4,6-dimethyl-N-(β -oxy-ethyl)-2-pyrimidinon, Butylhydroxytoluene, Chronic autoimmune inflammation model, Ionol, Lipid peroxidation, Nitrite ion, Rats, Xymedone