MODEL OF CHRONIC LIVER DAMAGE INDUCTION BY THIOACETAMIDE GAVAGE IN *WISTAR* RATS AND PENTOXIFYLLINE TREATMENT

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INTRODUCTION: Chronic liver diseases represent a serious public health problem, with high morbidity and mortality rates and limited therapeutic options. Liver fibrosis is the reversible stage of the disease and can progress to cirrhosis when untreated, an irreversible condition that requires liver transplantation in the terminal cases. Thioacetamide (TAA) is a hepatotoxic compound widely used in experimental models of hepatic injury, inducing oxidative stress, necrosis and fibrosis in the liver. However, dilution of TAA in drinking water is the most common method for chronic injury, where the exact amount of the compound being administered to each animal is not assured. In this study, we proposed an alternative model for inducing chronic liver injury with TAA. Pentoxifylline (PTX) is a methylxanthine derivative with anti-inflammatory and antifibrotic properties and was used as treatment. OBJECTIVE: To evaluate the effects of PTX as a treatment in an alternative model of liver injury induced by TAA gavage in rats. MATERIALS AND METHODS: Thirty *Wistar* rats were divided into four groups: Control (I), PTX (II), TAA (III) and TAA+PTX (IV). Hepatotoxicity was induced by 125 mg/kg of TAA orally, 3 times a week for 12 weeks; and treatment with 100 mg/kg of PTX orally, daily, started after 8 weeks of chronic induction. Biochemical, hematological and histological parameters were analyzed. RESULTS AND CONCLUSION: The induced group presented weight loss, elevated AST, reduced triglycerides, increased leukocytes and significant histological damage. PTX attenuated the elevation of AST, but did not alter histological or biochemical parameters. In addition, a possible toxic synergistic effect was observed between the combination of TAA and PTX, evidenced by the decrease in red blood cells. Therefore, the proposed model for oral administration of TAA proved effective in establishing significant chronic liver damage, while PTX demonstrated slight therapeutic potential, although it was not sufficient to reverse histological damage established by the model. This study reinforces the importance of investigating new approaches to chronic liver diseases, both for induction and potential treatments.

Keywords: hepatotoxicant; inflammation; fibrosis

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