

EVALUATION OF LIVER DAMAGE MARKERS IN ANIMALS INDUCED WITH CCL₄ AND TREATED WITH *Baccharis trimera* EXTRACT

Rafaella Pereira da Silveira; Pedro Henrique Doleski; Thayanara Cruz da Silva; Renan da Silva Ebone; Priscila Bordoni Volpato; Júlia Maira Sander Gianezi; Daniela Bitencourt Rosa Leal;

Universidade Federal de Santa Maria, Santa Maria - RS, Brasil

INTRODUCTION: Carbon tetrachloride (CCl₄) is an organic compound already recognized in the literature for its effect as an acute liver damage inducer. The silymarin extract, derived from *Silybum marianum*, is considered a standard herbal medicine with hepatoprotective action and widely marketed. Carqueja (*Baccharis trimera*) is a branched subshrub native to South America that contains phytochemicals such as flavonoids, diterpenes, and diterpene lactones which may show therapeutic potential for liver diseases. It is important to highlight that teas and infusions made from this plant are popularly used to improve digestion and gastrointestinal discomfort. **OBJECTIVE:** Evaluate the *in vivo* hepatoprotective potential of *Baccharis trimera* extract in rats. **MATERIALS AND METHODS:** Sixty *Wistar* rats were obtained from the central animal facility at UFSM (ethics committee approval: 8027060316). Twenty animals without induction, divided into four groups, received for 30 days, orally, water (G1), standardized silymarin extract 100mg/kg (G2), carqueja extract 300mg/kg (G3), and carqueja extract 600mg/kg (G4). Forty animals were induced by intraperitoneal administration of CCl₄ and divided into four groups as mentioned above. Twenty-four hours after CCl₄ exposure the animals were euthanized and samples collected for proper analysis. **RESULTS AND CONCLUSION:** The liver damage marker ALT and the lipid oxidation marker TBARS increased in the induced groups, but pretreatment with silymarin or carqueja extracts significantly reduced ALT and TBARS levels when compared with the untreated group. Animals treated with silymarin and carqueja extracts (300mg/kg) showed no differences in body weight during the experiment. However, animals treated with carqueja 600mg/kg showed a significant reduction in body weight gain. The carqueja extract showed a hepatoprotective effect similar to the herbal medicine already used in clinical practice for liver disease patients (silymarin), with a reduction in liver damage markers (ALT and TBARS). The body weight reduction in animals treated with carqueja 600mg/kg should be carefully observed, since weight loss may indicate some kind of extract toxicity.

Keywords: Hepatoprotective; Oxidative stress; *Baccharis trimera*; Silymarin; TBARS;