# Regulatory T Lymphocyte Levels in Liver, Spleen, and Blood Following Intermittent Ethanol Induction and Silibinin Treatment in Animals.

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INTRODUCTION: Excessive consumption of alcoholic beverages can trigger liver diseases and induce disfunctions on the immune system. Thus, continuous and excessive use of alcoholic beverages leads to a reduced immune response. Therefore, research aimed at reversing the effects caused by alcohol is of great importance. Among the compounds that have important hepatoprotective action is Silibinin (SIL). It is a polyphenolic flavonoid that has antioxidant and anti-inflammatory effects. SIL is the main constituent of silymarin (Silybum marianum), a plant extract with potent hepatoprotective action used in clinical medicine for the treatment of liver diseases. OBJECTIVE: Evaluate possible alterations in the levels of regulatory T cell phenotype (CD4+/FOXP3+) of hepatic, splenic, and blood lymphocytes from *Wistar* rats subjected to intermittent ethanol induction (IIE) and pretreated with SIL. MATERIALS AND METHODS: IIE was performed by administering 5 g/kg of ethanol orally every three days for two months. Pretreatment with SIL was performed 30 minutes before induction by administering 100 mg/kg of SIL diluted in corn oil. After euthanasia, lymphocytes were isolated from blood, spleen, and liver. These lymphocytes were then labeled with antibodies specific to CD4 and FOXP3 and evaluated by flow cytometry. The number of regulatory T cells (CD4+/FOXP3+) was obtained for each group of animals. RESULTS AND CONCLUSION: No change was observed in the levels of Tregs in the lymphocytes of animals treated only with SIL, demonstrating no effect per se. In animals subjected to IIE (without treatment), an increase in the levels of Tregs in the liver and spleen was observed. The increase in Tregs may be associated with a mechanism to prevent an excessive inflammatory process in these tissues, while potentially increasing their immunological vulnerability. In animals subjected to IIE and pretreated with SIL, the levels of Tregs in the liver and spleen remained at baseline values, possibly due to the reduction in liver damage caused by SIL's action.