

Hepatoprotective and antioxidant function of fermented methionine and Silybum marianum in feline inflammatory liver disease

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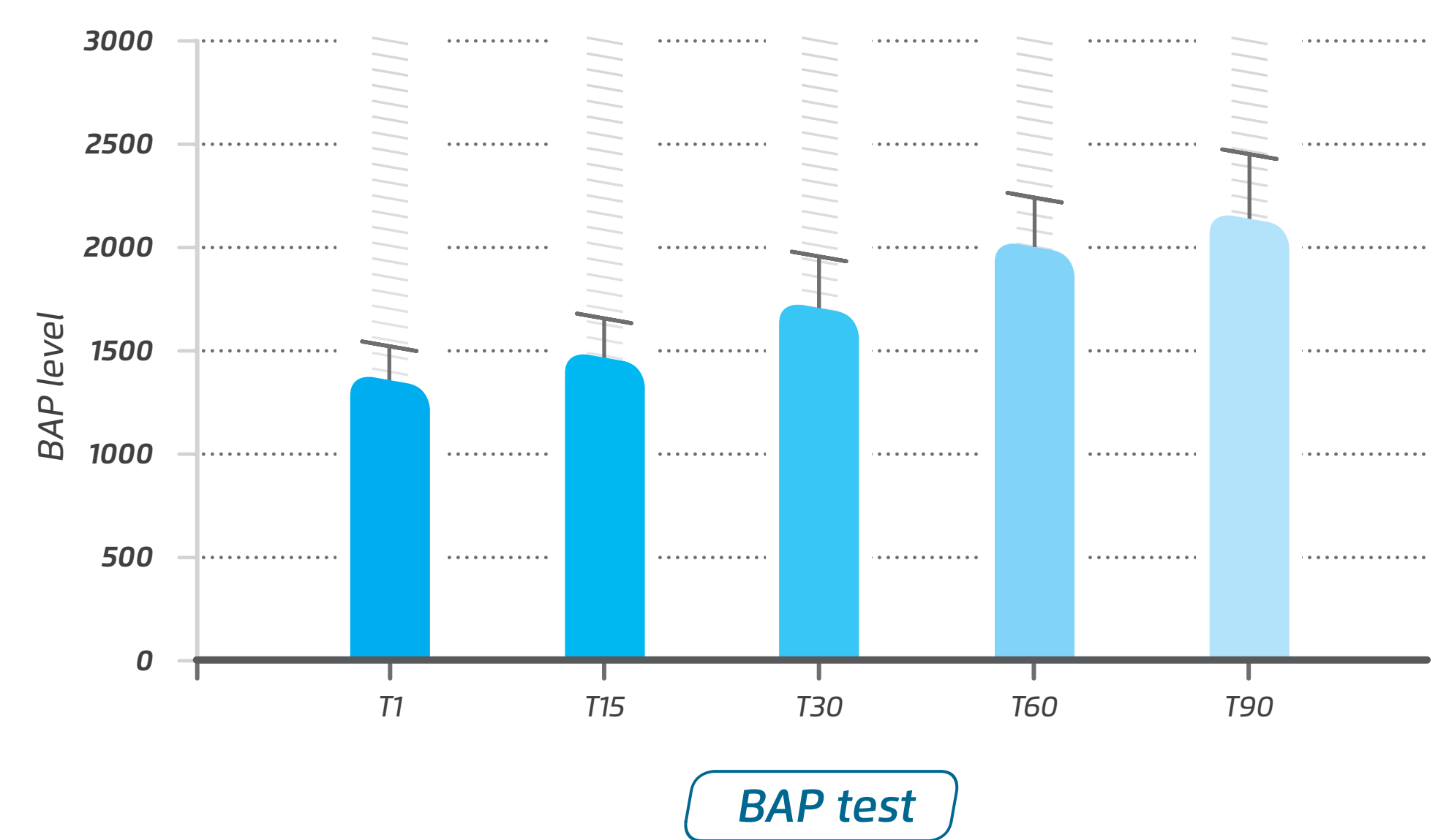
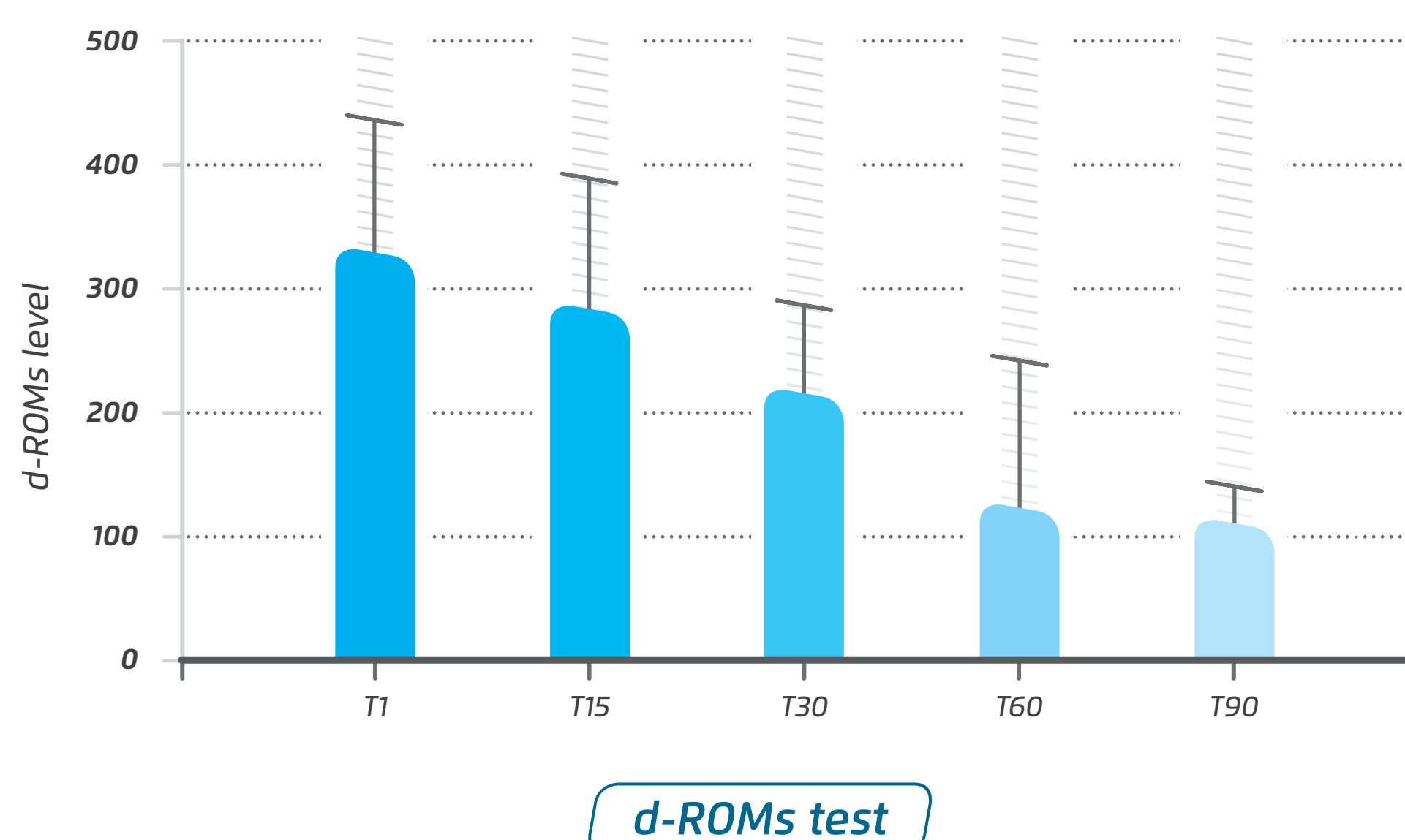
INTRODUCTION

Feline inflammatory liver disease (ILD) encompasses a group of acquired inflammatory disorders including cholangitis and hepatitis. In experimental liver disease models, methionine metabolites such as S-adenosyl-methionine have shown **considerable hepatoprotective and antioxidant effects**. Also Silybum marianum (SM) is considered to have hepatoprotective and antioxidant functions. This study was designed to evaluate the ability of fermented methionine associated with SM to decrease oxidative stress in 20 adult domestic cats with ILD.

MATERIALS AND METHODS

Ten cats (T group) were daily orally administered with a formulation based on fermented methionine and Silybum marianum (1 tab each 5 kg b.w.). Ten cats, whose owners did not give consent for any supplemental therapies, were selected from the clinical database and served as control (C group). Hematochemical, biochemical and oxidative stress parameters were evaluated at 0, 15, 30, 60 and 90 days. The serum total oxidant levels and antioxidant capacity were assessed by d-ROMs (reactive oxygen metabolites derivatives) test and BAP (biological antioxidant potential) test, respectively [4]. Data were analyzed using Kruskal-Wallis and Wilcoxon rank sum test ($P < 0.05$) using R software.

RESULTS AND DISCUSSION



Leukocyte, alkaline phosphatase (ALP) and alanine aminotransferase (ALT) were lower ($p < 0.05$) in T group than C group at day 90. Bilirubin, gamma-glutamyl transferase (GGT) at days 30 and 90 were lower ($p < 0.05$) in T group than C group. In group T, ALT, AST and d-ROMs values significantly decrease at day 90 ($P < 0.05$) compared to T0. In the same group BAP levels significantly increase at the end of treatment ($P < 0.05$).

DISCUSSION

Altogether, these findings suggest that the formulation based on fermented methionine and SM acts on two principal pathways involved in the defence of hepatocytes, specifically against oxidative stress and inflammation. Because cats appear to be particularly susceptible to oxidative stress [5], this supplement may be a beneficial part of therapeutic regimens for ILD. Further investigations are ongoing to confirm these preliminary results.

References

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