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EFFECTS OF *Solanum diploconos* FRUITS EXTRACT ON INNATE INFLAMMATORY RESPONSES

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INTRODUCTION

There are few information about the pharmacological properties of the plant Solanum diploconos in the literature. There are just reports of its anti-oxidant activity (Ribeiro et al., 2016), which is assigned to the large amount of phenolic compounds present in the plant. Phenolic compounds are often described as modulators of the immune system. In this contexy, the present study investigate the effects of S. diploconos on innate inflammatory response using in vivo and in vitro methods.

MATERIAL AND METHODS

Anti-inflammatory activity was investigated using carrageenan-induced inflammation in the subcutaneous tissue of male Swiss mice orally treated with the S. diploconos extract (10, 30 or 100 mg/kg). The leukocyte influx (optical microscopy), secretion of chemical mediators (TNF and IL-1, enzyme-linked immunosorbent assay) and protein exudation (Bradford reaction) were quantified in the inflamed exudate. Histological analysis of the pouches was performed. The cell viability, TNF and NO were in vitro evaluated in macrophages and neutrophils pre-treated with S. diploconos (1, 10, or 100 µg/mL) and stimulated with LPS.

RESULTS

The oral treatment with *S. diploconos* extract (100 mg/kg) promoted a reduction in the neutrophil migration, as well a decrease in TNF, IL-1β and IL-6 concentrations, but did not changed the exudation of proteins. *In vitro*, treatment with *S. diploconos* extract reduced TNF an NO in neutrophils and macrophages in all doses evaluated.

CONCLUSIONS

Together, the data herein obtained demonstrated that *S. diploconos* fruit extract presents anti-inflammatory actions by blocking pathways of neutrophil migration and secretion, suggesting its therapeutic application to acute inflammatory reactions.

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REFERENCES

Ribeiro et al. 2016. Food & Function.