III SIMPÓSIO INTERNACIONAL EM INVESTIGAÇÕES QUÍMICO-FARMACÊUTICAS
I ENCONTRO IBERO-AMERICANO DE PLANTAS MEDICINAIS DR. MAHABIR GUPTA
I CONGRESSO LUSO-BRASILEIRO DE CIÊNCIAS E TECNOLOGIAS EM SAÚDE

Área: FAR 16

TAGETES ERECTA L. FLOWERS EXTRACT: EFFECTS ON THE INNATE INFLAMMATORY RESPONSE

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INTRODUCTION

Tagetes erecta L. is popularly known as "marigold", used as a source of natural dyes and bioactive products. Preliminary studies evaluated the presence of flavonoids and salicylic acid that indicate a potential anti-inflammatory effect from the extract of the flowers of *T. erecta* L. In this context, the present work will investigate the anti-inflammatory effects of the dry hydroalcoholic extract of *Tagetes erecta* Linn (ESTE) flowers on lipopolysaccharide (LPS) induced inflammation.

MATERIAL AND METHODS

The viability of neutrophils from mice was performed using the Trypan Blue methodology and for macrophage viability, the MTT methodology was used. Nitric oxide was quantified indirectly by the formation of its metabolites nitrate (NO3-) and nitrite (NO2-), through the Griess reaction. In the cell culture supernatant levels of TNF, IL-6, and IL-1β were measured by the ELISA method according to the manufacturer's instructions (R & D Systems – DuoSet ®). (CEUA 031/21).

RESULTS

The results obtained showed that extract in all concentrations evaluated, did not present cytotoxicity on RAW 264.7 macrophages and neutrophils. The results of the measurement of nitric oxide, TNF, IL-6 and IL-1β, both in macrophages and in neutrophils, showed that extract was able to significantly decrease the levels in the culture supernatant of cells stimulated with *Escherichia coli* lipopolysaccharide (LPS) and treated with 10 µg/mL of extract.

CONCLUSIONS

Together, the results herein presented show that *T. erecta* L. extract displays important *in vitro* anti-inflammatory actions by blocking pathways of neutrophil and macrophage, suggesting its therapeutic application to acute inflammatory reactions.

ACKNOWLEDGMENTS

UNIVALI, CAPES, CNPq, FAPESC, INCT-Inovamed