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: MIC 01

LEISHMANICIDAL EFFECT OF *Cedrela fissilis* METHANOLIC EXTRACT AND FRACTIONS

Louise Garcia[1]*, Keyla Furtado[1], Carlos Rafael Vaz[2], Greice Rafaele Alves[2,3],Rivaldo Niero[2,3],Milena Menegazzo Miranda-Sapla[2]

*[1]Curso de Biomedicina, [2]Programa de Pós-graduação em Ciências Farmacêuticas (PPGCF) [3]Núcleo de investigações Químico-Farmacêuticas (NIQFAR), Universidade do Vale do Itajaí, SC, Brasil**louisegarcia004@gmail.com

INTRODUCTION

Leishmaniasis is a group of vector-borne diseases caused by protozoans of the genus *Leishmania*, which exhibit a broad spectrum of clinical presentation including different cutaneous forms and the visceral form causing significant morbidity and mortality. Despite that, Leishmaniasis treatment has been the same for the last 85 years, with high toxicity and significant side effects. Seeking novel therapeutic targets, plants of the *Cedrela* genus have been used in folk medicine to treat leishmaniasis and varied biological properties have already been reported as antiviral, anthelmintic, anti-rheumatic, anti-cancer, and anti-inflammatory action. Thus, we evaluated the *in vitro* leishmanicidal activity of methanolic extract of *Cedrela fissilis* (ME) and its fraction derivates: hexane (HF), dichloromethane (DCMF), and ethyl acetate (EAF)against *L. amazonensis* (*L.a.*) and *L. infantum (L.i,)* promastigote forms.

MATERIAL AND METHODS

The methanolic extract and fractions were obtained from *Cedrela fissilis* stem bark (NIQFAR-UNIVALI; SisGen number A985145). The proliferation of promastigote forms was evaluated by proliferation kinetics of *L.a.* (WHOM/BR/75/JOSEFA) and *L.i.* (MCAN/BR/97/p142 treated with different concentrations of ME, HF, DMF, and EAF (25-100 µg/mL) for 5 days.

RESULTS

The proliferation kinetics showed a later effect of the tested extracts against the promastigote forms of both species, and *L.i.* was predominantly more susceptible to treatments when compared to *L.a.* The *Cedrela fissilis* ME presented leishmanicidal action against *L.a.* from 72h at all tested concentrations, while about *L.i.* the effect was apparent after 96h of treatment at a concentration of 100ug/mL. When evaluating the ME fractions, the HF showed the best leishmanicidal effect reducing proliferation at all HF concentrations tested against *L.i.* and *L.a.* after 48h and 96h of treatment, respectively. DCMF also showed leishmanicidal action against *L.a.* after 96h of treatment (50 µg/ml and 100 µg/ml) and against *L.i.* from 72h at all concentrations. The EAF showed no leishmanicidal effect at the concentrations and period evaluated.

CONCLUSIONS

The HF and DCMF showed promising effects acting directly on promastigote forms suggesting such activity may be related to steroids, terpenes, and methoxylated flavonoids, the main class of components of these fractions. Further studies are supported for the isolation of active compounds, as well as new *in vitro* and *in vivo* assays in the experimental leishmaniasis model.

ACKNOWLEDGMENTS

UNIVALI/CAPES/CNPq/FAPES