Anti-inflammatory Activity of Cissampelos sympodialis Eichl. (Menispermaceae) Leaf Extract

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SUMMARY. The aqueous fraction of the ethanolic extract obtained from the leaves (AFL) of Cissampelos sympodialis Eichl. (Menispermaceae) was evaluated for anti-inflammatory activity, as it is used in folk medicine for this purpose. In mice the AFL (100 mg/kg, ip) inhibited both the 12-O-tetradecanoylphorbol 13-acetate and capsaicin-induced ear edema by 58% and 37%, respectively. The effective dose of AFL to inhibit the carrageenan-induced rat paw edema was 50 mg/kg (24%). Preliminary results of experiments on cell migration showed that the administration (subcutaneous route) of AFL at 100 and 200 mg/kg in rats inhibited the carrageenan-induced neutrophil migration measurement after the administration of the irritant by 53 and 50%, respectively. The results show that the AFL has anti-inflammatory activity.

RESUMEN. "Actividad antiinflamatoria del extracto etanólico de las hojas de Cissampelos sympodialis Eichl. (Menispermaceae)". La fracción acuosa del extracto etanólico obtenido de las hojas (AFL) de Cissampelos sympodialis ha sido evaluada con respecto a la actividad antiinflamatoria, ya que en medicina popular es usada para esta finalidad. En ratones el AFL (100mg/kg ip) ha inhibido edema de la oreja por el 12-O-tetradecanoylphorbol 13-acetato y capsaicín en un 58% y 37%, respectivamente. La dosis eficaz de AFL para inhibir el edema de la pata de rata por carrageena fue 50 mg/kg (el 24%). Los resultados preliminares de experimentos sobre la migración celular mostraron que AFL en dosis 100 y 200 mg/kg se en ratas después de la administración de la carrageena inhibió la migración de neutrófilos en un 53% y 50%, respectivamente. Los resultados muestran que el AFL posee actividad antiinflamatoria.

INTRODUCTION

Cissampelos sympodialis Eichl. (Menispermaceae) is a plant popularly known in Brazil as "milona". The water infusion of its root is used in folk medicine for the treatment of asthma, arthritis, bronchitis and urinary infections 1, where inflammation is a common component of these diseases. For example, asthma is essentially a T helper type 2 (Th2) cell cytokine profile-driven chronic airway inflammation. Indeed, cytokines such as IL-4, IL-5 and/or IL-13 control various stages of the disease and interact to maintain and amplify the inflammatory response 2,3.

Recently, Piuvezam et al. 4 demonstrated that the aqueous fraction of the ethanolic extract obtained from the leaves of C. sympodialis (AFL) increases the production of the anti-inflammatory cytokine (IL-10) and inhibits the T cell proliferative response by concanavalin-A-treated BALB/c spleen cells.

Several other pharmacological studies have demonstrated that the AFL increases intracellular cyclic adenosine monophosphate (cAMP) levels in guinea pig alveolar leukocytes 5 and in human peripheral neutrophils 6. cAMP is known to suppress inflammation by down-regulating neutrophil activity 7. The AFL also inhibits both histamine-induced bronchospasm in normal guinea pigs and antigen-induced anaphylactic responses in ovalbumine-sensitized guinea pigs 8.

The above results indicate that the AFL may

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PALABRAS CLAVE: Actividad antiinflamatoria, migración celular, Cissampelos sympodialis Eichl., Menispermaceae.

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