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EFFECT OF AQUEOUS AND ETHANOLIC EXTRACTS OF PLECTRANTHUS BARBATUS ON HYPERURICEMIA

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Hyperuricemia can lead to the development of gouty arthritis, which is highly prevalent in the global population. Gouty arthritis is an inflammatory disease caused by the deposition of monosodium urate crystals in joint, resulting from elevated blood uric acid (UA) levels. Conventional chronic gout treatment aims to reduce uricemia using medications such as allopurinol, benzbromarone, and probenecid. However, these medications are limited and have proven ineffective in treating 20% of hyperuricemic patients. *Plectranthus barbatus* (Brazilian boldo) is a medicinal plant widely used in traditional medicine for pain relief and inflammatory conditions. This study aimed to investigate the hypouricemic potential of aqueous and ethanolic extracts from *P. barbatus* leaves in a rat model of hyperuricemia. Hyperuricemia was experimentally induced in male Wistar rats by intraperitoneal (i.p.) administration of potassium oxonate and uric acid by gavage, except for the animals in the normal control group. The extracts were administered to animals (i.p.) at doses of 5, 15, 30, 60, 120 e 240 mg/kg. The treatments were compared to positive controls (allopurinol, probenecid and benzbromarone) and to a hyperuricemic control group (animals in this group were induced to hyperuricemia and treated with vehicle only). The results showed that both extracts significantly reduced serum UA levels at all evaluated doses ($p<0,05$), compared to the hyperuricemic group (11,16 mg/dL). The ethanolic extract at doses of 15, 60, and 120 mg/kg and the aqueous extract at 5 mg/kg significantly increased urinary UA excretion. Additionally, both extracts significantly inhibited hepatic xanthine oxidase activity at all doses, suggesting the therapeutic potential of *P. barbatus* in managing hyperuricemia and reinforce the importance of studying medicinal plants as source of new hypouricemic agents. The authors thank the support from their institutions and the financial support of Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Fundação de Amparo à Pesquisa do Estado de Minas Gerais (FAPEMIG), Universidade Federal de Ouro Preto (UFOP), Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) and Financiadora de Estudos e Projetos (FINEP).

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