

Neutralization Properties of *Jatropha curcas* juice on Phospholipase A₂, Coagulant and Hemorrhagic Activities Induced by *Bothrops pauloensis* Snake Venom

Brito, C.D.¹; SILVA, I.A.¹; Alves, L.M.¹; Silva, T.D.S.¹; Oliveira, S.X.¹; Vieira, S.A.P.B.²; Homsí-Brandeburgo, M.I.²; Rodrigues, V.M.²; Hamaguchi, A.²; Mendes, M.M.² and Izidoro, L.F.M.¹

¹Faculdade de Ciências Integradas do Pontal, Universidade Federal de Uberlândia, Minas Gerais, Brasil;

²Instituto de Genética e Bioquímica, Universidade Federal de Uberlândia, Uberlândia - MG, Brasil.

Many medicinal plants are recommended for the treatment of bites from snakes. Snake venoms are probably the most complex protein mixture of the animal kingdom and induce a variety of local effects on the victim, such as coagulopathy, edema, necrosis and hemorrhage. The aqueous extract prepared from the juice of *Jatropha curcas*, popularly known as named “Pinhão”, was tested to verify the ability to inhibit the effects induced by the venom of *Bothrops pauloensis*, when incubated with extract in the ratios of 1:1, 1:5, 1:10 and 1:50 (w/w, venom/extract) for 30 min at 37°C. The results showed that the extract inhibited the plasma coagulation induced by venom, prolonging the time of coagulation, until 240 sec in the ratio of 1:1 (w/w, venom/extract). In hemorrhagic activity, the extract was able to inhibit 100% of the hemorrhagic halos in all the proportions tested. There was a reduction in phospholipase A₂ activity of 73.5% and 76.4% in the diameter of the hemolytic halo in the ratios 1:5 and 1:10, respectively. Thus it appears that the aqueous extract of *Jatropha curcas* has potent neutralizing properties of venoms from snakes. Can therefore be used as alternative treatment and the serum is a rich source of potential inhibitors of toxins involved in various pathophysiological diseases of humans and animals.

Keywords: *Jatropha curcas*, *Bothrops pauloensis*, inhibition, vegetal extract.

Financial support: FAPEMIG, CAPES, UFU