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Effect of continuous treatment of *Pterodon pubescens* Benth and *Cordia verbenacea* DC association in mechanical allodynia assay

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Purpose of study: *Pterodon pubescens* Benth and *Cordia verbenacea* DC Borhidi species are widely used by Brazilian population for treatment of pain and inflammation with effective pharmacological activities [1,2]. The purpose of this study was to assess the synergistic effect between dichloromethane crude extract (Pp) from *Pterodon pubescens* Benth. and *Cordia verbenacea* leaves essential oil (Cv) in chronic treatment of mechanical allodynia induced by complete Freund´s adjuvant (CFA) test. **Methods:** Male *Swiss* mice (n=6) were given 40 µl (*s.pl.*) of CFA in the right paw to induce inflammation with measurement of mechanical allodynia with an anesthesiometer. A steel rod (diameter 0.5 mm) was pressed against the paw under analysis with increasing force (from 0 to 8 g in 5 seconds for mice). With the withdrawal of the paw, the mechanical stimulus was automatically ceased and the force that each animal endured was recorded by the device. The assessment was performed as follows: measurement of basal stimulation in the right hind paw; injection intraplantar of CFA; 24 hours after measurement of baseline in hyperalgic state; treatment with the samples with subsequent measurement of acute mechanical allodynia (30, 60 and 90 min post-treatment) and after seven days, the procedures for chronic mechanical allodynia assessment was repeated [3]. All the animals were treated by oral route 60 minutes before the stimulus, every day until the seventh day of experiment with vehicle(10 ml/kg), dexametasone (5 mg/kg as positive control) and association of Pp + Cv. The mixtures consised of 32.5 mg/kg of Pp + 82.5 mg/kg of Cv; 65 mg/kg of Pp + 165 mg/kg of Cv and 130 mg/kg of Pp + 330 mg/kg of Cv. Approved by Ethics Committee nº 3181-1. **Results:** At first day of evaluation the 2 highest doses of mixtures demonstrated a significant effect at the supported pressure until 60 minutes after treatment (Figure 1A). Chronic treatment showed a greater effect of mechanical pressure supported (up to 80%) and a higher baseline due to continuous treatment (Figure 1B).

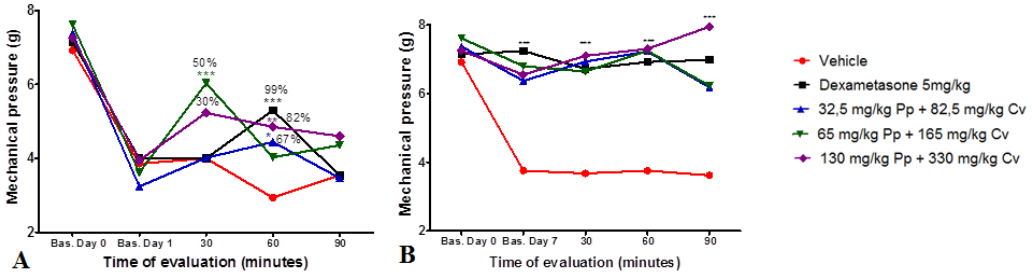

Figure 1. Evaluation of allodynia antinociceptive activity in the CFA induced model. **A**. Day 1. **B**. Day 7. Data are expressed as mean (lines) (n = 6). Dunnett's t- test * p <0.05 ; ** p <0.01 and *** p <0.001 . The values (%) corresponds to the increase of the average in the control group (vehicle).

Conclusions: The association showed significant results in both phases of mechanical allodynia in a hyperalgic state and in chronic phase. The chronic treatment contributed to reduce the chronic state of inflammation. Therefore this extracts association may represent a potential therapeutic advantage for the clinical treatment of pain and inflammation. **References:** [1] Spindola, H.M., Servat, L., Carvalho, J.E., Rodrigues, R.A.F., Sousa, I.M.O., Foglio, M.A. 2011. Geranylgeraniol and 6α,7β-dihydroxyvouacapan-17β-oate methyl ester isolated from *Pterodon pubescens* Benth. .: further investigation of the antinociceptive mechanisms of action. Eur. J. of Pharmacol. 656:45-51. [2] Michielin, E.M.Z., Wiesse, L.P.L., Pedrosa, R.C., Ferreira, S. R.S. 2011. Radical-scavenging activity of extracts from *Cordia verbenacea* DC obtained by different methods. J. of Supercritical Fluids. 56: 89-96. [3] Villeti, G., Bergamarchi, M., Bassani, F., Bolzoni, P.T., Maiorino, M., Pietra, C., Rondelli, I., Chamiot-Clark, M.,

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