

Investigation of the Cytotoxic, Antioxidant and Coagulant Effects from *Bothrops jararacussu* Snake Venom

Silva, D.P.¹; Ferreira, S.S.¹; Barbosa, A.R.¹; Paixão-Júnior, O.B.¹; Leite, R. S.²;
Pessôa, H.L.F. ¹; Marchi-Salvador, D.P.¹

¹Departamento de Biologia Molecular, CCEN, UFPB, João Pessoa, PB, Brazil;

²PPG Ciências Naturais e Biotecnologia, Unidade Acadêmica de Saúde, UFCG,
Cuité, PB, Brazil.

INTRODUCTION: The *Bothrops* snake venom is a complex mixture of molecules with high pharmacological activities. The study of the biological properties of snake venoms has revealed a promising area, considering the importance of knowledge of the poisoning mechanism for the development of antivenom serum with greater specificity or drugs. **OBJECTIVES:** The aim of this work was to evaluate the cytotoxic, antioxidant and coagulating effects from the *Bothrops jararacussu* snake venom in erythrocytes, hemoglobin and citrated plasma, respectively. **MATERIAL AND METHODS:** To evaluate the hemolytic and antioxidant activities was used a lyophilized sample of the crude ophidic venom from the *B. jararacussu* solubilized in PBS in amounts 1000; 100; 10; 1 and 0.1µg against human erythrocytes and hemoglobins according Hubert et al (1997) and Naoum et al (2004), respectively. The assessment of human citrated plasma clotting by different amounts of snake venom (10; 5; 2.5; 1,25µg) was made according to Alvarado and Gutierrez (1988). **RESULTS AND DISCUSSION:** There was no observed direct hemolysis in any of the trials evaluated to the snake venom, but when the snake venom was incubated with fatty acid and calcium chloride, the percentage of hemolysis evaluated was 30 in the larger quantity of snake venom against the AB, B, and O blood groups. In the erythrocytes of the type A blood group, the snake venom incubated only with fatty acid, the hemolysis was raised to 20%. There was a 40% increase in methemoglobin formation in all quantities of snake venom, when incubated with phenylhydrazine, an oxidant agent. The measured coagulation time varies depending on the quantity of venom used: 10µg-29sec.; 5µg-34sec.; 2,5µg-43sec. and 1.25µg-51sec. **CONCLUSIONS:** The venom showed hemolytic activity in the presence of calcium and fatty acid, and oxidant effect potentiated in the presence of phenylhydrazine. The plasma coagulation time was dose-dependent, increasing over time as snake venom quantity decreased.

Key words: biological effects, *Bothrops jararacussu*, snake venom.

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