

Effect of an Extract of Leaves *Indigofera Suffruticosa* on the Membrane Integrity of Erythrocytes from Rats

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Indigofera Suffruticosa is a legume found in the semi-arid region of northeastern Brazil. The leaves are used as antispasmodic, sedative, diuretic and purgative. Studies have showed the action of natural drugs in modifying the labeling *in vitro* of erythrocytes from rats with radionuclides. This may be explained by structural perturbation of the plasma membrane. Morphological analysis of these cells can show effects of drugs on the membrane structure. The osmotic fragility is widely used for assess the capability of the erythrocytes membrane to resist hemolysis in different hypotonic solution. This study aimed to evaluate the effect of the aqueous extract of *I. Suffruticosa* in the integrity of the membrane structure from erythrocytes of rats. The blood samples of Wistar rats were incubated with *I. Suffruticosa* extract (37.5, 75, 150mg/ml) or with saline, as a control for 1h at 22°C and centrifuged at 1500xg for 15min. Red blood cells (RBC) were mixed with different hypotonic NaCl (from 0.12 to 0.9%) solutions. The preparations were centrifuged, the supernatants were measured at 540nm in each NaCl concentration tested and the hemolysis percentage was calculated. All concentrations of the extract used altered significantly ($p < 0.05$) the profile of osmotic fragility of RBC. The concentration of 150 mg/ml of extract increased in 70% the hemolysis of RBC in the interval from 0.24 to 0.48% NaCl when compared with the control group. In conclusion, the effect of the *I. Suffruticosa* extract in the erythrocyte resistance can be due to alterations in the structure of its plasmatic membrane modifying the transport of ions .

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Keywords: *Indigofera suffruticosa*, Osmotic fragility, Erythrocyte.