**Bauhinia sp AND Solanum sp MUTAGENICITY IN STREPTOZOTOCIN - INDUCED DIABETIC MICE**

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Environmental conditions such as water availability may alter the amount of secondary metabolites responsible for the phytoterapeutical effects in medicinal plants. In order to ensure no damages to the genetic material, medicinal plants can be evaluated by the micronucleus test *in vivo*. *Bauhinia sp* and *Solanum sp* are listed in the Programa Nacional de Plantas Medicinais e Fitoterápicos de Interesse do Sistema Único de Saúde (RENISUS) and are widely used to treat *diabetes mellitus*. This is the first study to examine the water seasonality on phytochemical constituents and mutagenicity of these medicinal plants. This study aimed at evaluating the mutagenicity of pata-de-vaca (*Bauhinia sp*) and jurubeba (*Solanum sp*) ethanolic extracts from a rainy season in streptozotocin (STZ)-induced diabetic mice. The vegetal samples were collected in the Horto da Prefeitura Municipal de Vitória, Espirito Santo, Brazil after a brief rainy period to prepare the ethanolic extract. The project is approved by the Committee of Ethics in Animal Use of the Universidade Federal do Espirito Santo (UFES) (17/2015). Male mice (20-30g) provided by the Central Animal Facility of UFES, were divided into eight groups: negative control, STZ (200 mg/Kg body weight, b. w., via intraperitoneal injection, i.p.), and pata-de-vaca or jurubeba (both plants extracts at 50, 100, 200 mg/Kg b.w, gavage). The pata-de-vaca and jurubeba groups were diabetes induced by STZ (200 mg/Kg b.w., i.p.) prior the extracts treatment for 30 days. The glycemic index (GI) was measured twice a week. Slides were prepared with a blood drop smear and colored with Leishman staining. The mutagenicity was determined by the micronucleated normochromatic erythrocytes (MNNCE) scored in 2000 normochromatic erythrocytes (NCE). Only the lowest dose of both plants presented no statistical differences when compared to negative control, indicating no mutagenic effect. However, the medium and highest doses of both plants were similar to the STZ group suggesting more damages to the DNA. All the doses evaluated did not reduce the GI. Other literature studies showed mutagenic effects of both plants, although there is no consensus about the mutagenicity and hypoglycemic effects. Further studies with pata-de-vaca and jurubeba will be performed in order to quantify the secondary metabolites probably associated with the mutagenicity and hypoglycemic effects, also comparing these results with the dry season ones. (FAPES)

**Keywords:** *Bauhinia sp*, *Solanum sp*, micronucleus test, diabetes mellitus, dry season, rainy season