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ANTICANCER ACTIVITY OF *Synadenium grantii* STEMS AND ITS ISOLATED COMPOUND IN EXPERIMENTAL MURINE MELANOMA MODEL

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Introduction: Melanoma is the most aggressive type of skin cancer and, in advanced stages, is very resistant to conventional therapies. Therefore, the development of more effective treatments for this type of cancer is essential, especially those derived from natural products. *Synadenium grantii*, popularly known as “Janaúba” is a medicinal plant that has already presented anticancer activity in several experimental models. The extract of *S. grantii* stems and its isolated compound 3,4,12,13-tetraacetylforbol 20-phenylacetate (C1) demonstrated antiproliferative activity in several tumor cell lines. The aim of the study was to evaluate the anticancer activity of the methanolic extract of *S. grantii* stems and its isolated compound C1 in experimental murine melanoma model. **Methods:** Preparation of extract and isolation of C1 were carried out by conventional techniques. The anticancer activity was analyzed using B16F10 melanoma xenograft model with 36 female mice inoculated with melanoma cells. The animals were divided into 6 experimental groups and received: vehicle (distilled water), dacarbazine (80 mg/kg), methanolic extract of *S. grantii* stems at doses of 10, 30 and 100 mg/kg and C1 at 2 mg/kg. After treatment, the animals were sacrificed and the tumors collected and measured. Tumor samples were processed for immunohistochemical analysis of cell proliferation with PCNA marker and homogenized to verify the concentrations of some proteins involved in carcinogenesis: vascular endothelial growth factor (VEGF), tumor necrosis factor alpha (TNF-α) and interleukin 10 (IL-10), with ELISA assays. **Results:** Treatments reduced the weight and volume of tumors when compared to the vehicle, however, the chemotherapeutic dacarbazine and C1 were more effective in this reduction. Both treatments also presented a better potential to decrease the number of proliferating cells. The extract of *S. grantii* stems at doses of 30 and 100 mg/kg exhibited the same effect, however in a less significant way. Dacarbazine, the extract at the dose of 100 mg/kg and C1 reduced the concentrations of VEGF, TNF-α and IL-10 in the tumor homogenate, and C1 was more efficient than the chemotherapeutic drug used. **Conclusion:** *S. grantii* can be considered promising as an alternative treatment strategy for melanoma, because it was efficient reducing the size of tumors, the cellular proliferation and the concentration of some proteins involved in the carcinogenesis process. This activity can be attributed to the presence of C1, since it had a more significant effect than the plant extract and the chemotherapeutic used.

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