

Effect of Bhringaraja choornam and d-glucarate on cyclophosphamide induced hematological changes in wistar rat

Kubera Santhosh Venkatesh, Sri Rathna Vaidyanathan, Indra Kumar Gopi, Sabyasachi Mishra, Khushboo Ohdar, Sudarshan S. Iyer and Senthilkumar Subramanian
Sastra University, India

Cyclophosphamide (CP) is nitrogen mustard which is used to treat wide range of cancer and auto-immune diseases. However clinical studies showed that CP exhibits several side effects like stomachache, darkening of skin, alopecia. Hence in the present study, the effects of bhringaraja choornam and D-glucarate (BCG) have been explored on CP-induced hematological toxicity. BC is a combination of herbal plants having medicinal values. The components of BC having anti-inflammatory, anti-mutagenic and anti-carcinogenic effect were used. D-glucarate is also known for its anti-carcinogenic and detoxifying activity. In the present study, Wistar rats (both male and female) were orally administered with BC and D-glucarate at a dose of 100 mg/kg b.w. and 70 mg/kg b.w. respectively for 30 days. On 21st and 22nd day of experiment, CP was given by i.p. at a dose of 100 mg/kg b.w. and after sacrifice, blood was collected for hematological analysis. Significant changes were observed in the levels of RBC, hemoglobin, WBC, platelets, lymphocyte, monocyte and neutrophil during CP intoxication and minimal attenuation was found in BCG treatment. No significant alterations were found in MCV, MCH and MCHC. These results demonstrated that the BCG showed a modulation in CP toxicity. However, further works are warranted to support the study.

Biography

Kubera Santhosh Venkatesh is pursuing B.Tech Biotechnology in School of Chemical and Biotechnology in Sastra University, India. He has attended many national and international conferences.