Acute oral toxicity for medicinal plant *Solanum nigrum* 

L.A Review

Romana Rashid*¹, Ashiq Hussain Bhat², Muzaffer Hussain Wani³

¹Department of Zoology, Govt. Degree Collage Women Anantnag (India)
²Assistant professor Zoology, Govt. Degree Collage Women Anantnag (India)
³Sheri Kashmir University of Agriculture Sciences And Technology Jammu (India)

ABSTRACT

*Solanum nigrum* L. widely used medicinal plants in traditional medicine in the treatment of various diseases. Though commonly believed to be non-toxic plant extracts, may pose perilous systemic side effects to consumers including mutagenic potentials. These side effects which could be derived from medicinal plants require that safety studies be contacted to ascertain their toxicity levels. The current study reports the safety profiles of *Solanum nigrum* L.

Keywords: medicine, mutagenic, potential, study, toxicity.

I.METHODS

The acute oral toxicity study was carried out according OECD (Organization for Economic Co-operation and Development) 423 guideline which is based on a stepwise procedure with the use of a minimum number of animals per step. Absence or presence of compound related mortality of the animal’s dose at one step will determine the next step.

II.RESULTS

Healthy, young, Swiss albino mice of either sex (150-250g) were used for this study. Animals were fasted prior to dosing (only water was withheld over night). On next day, the fasted body weight of each animal is determined and the dose is calculated according to the body weight. 20 animals were divided into four groups for giving dose 05, 50, 300 and 2000 mg/kg. First of all, examined changes in animals after giving dose 100 mg/kg, rodents not died (means dose was tolerated) so subsequent doses were increased by a factor of 0.7. Maximum dose is 2000mg/kg. Animals were observed individually at least once during the first 30 minutes after dosing, periodically during the first 24 hours (with special attention given during the first 4 hours), and daily thereafter, for a total of 14 days. Following changes are examined in the treated animals.
III. BEHAVIORAL PROFILE

Mood: Grooming, restlessness, irritability, fearfulness.

ii) Neurological profile
Motor activity: Spontaneous activity, reactivity, touches response, pain response, startle response, tremor, gait, grip strength, pinna reflex, and corneal reflex.

iii) Autonomic profile
Writhing, defecation, urination, pile erection, heart rate, respiratory rate.

Selection of doses:
1/10th & 1/5th of the maximum tolerated safe dose (LD50) were selected as treatment dose for further pharmacological activity. The dried extract was subjected for in-vivo study to explore its anti-tumor activity.

IV. CONCLUSION
This depicts that the plant *Solanum nigrum* L. might be toxic to the consumers since most of them take the decoction of the plant for treatment in various diseases. Miss use of this plant as done traditionally for most plants could be detrimental to humans. Caution should be observed when using this plant. The safety observed in the use *Solanum nigrum* L. is recommendable given its wide use traditionally. Studies targeting molecular biomarkers and biochemical indicators of toxicity which are envisaged to give a more elaborate explanation on the safety of the plants are needed. Further research is required to isolated pure compounds which will aid as biomarkers in standardization of the plant use.

REFERENCES


