

Studying the Effects of Ruta Graveolens on Spontaneous Motor Activity, Skeletal Muscle Tone and Strychnine Induced Convulsions in Albino Mice and Rats

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Abstract : Ruta graveolens is a plant commonly found in north Africa and south Europe. It is reported that Ruta graveolens is used traditionally for epilepsy and some other illnesses. The acute and sub-acute effects of alcoholic extract residue were tested for possible anti-epileptic and skeletal muscle relaxation activity. The effect of extract on rat spontaneous motor activity (SMA) was also investigated using open field. We previously proved the anti convulsant activity of the plant against pentylenetetrazol and electrically induced convulsions. Therefore in this study strychnine was used to induce convulsions in order to explore the mechanism of anti-convulsant activity of the plant. The skeletal muscle relaxation activity of Ruta graveolens was studied using pull-up and rod hanging tests in rats. At concentration of 5%w/v the extract protected mice against strychnine induced myoclonic jerks and death. The pull-up and rod hanging tests pointed to a skeletal muscle relaxant activity at higher concentrations. Ruta graveolens extract also significantly decreased the number of squares visited by rats in open field apparatus at all tested concentrations (3.5-20%w/v). However, the significant decrease in number of rearings was only noticed at concentrations of (15 and 20%w/v). The results indicate that Ruta graveolens contains compound(s) capable to inhibit convulsions, decrease SMA and/or diminish skeletal muscle tone in animal models. This data and the previously generated data together point to a general depression trend of CNS produced by Ruta graveolens.

Keywords : Ruta graveolens, open field, skeletal muscle relaxation

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