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Synthesis and Evaluation of Antianxiety Activity of Novel Coumarin Derivatives on Swiss Albino Mice

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Abstract : This research highlights phobic behavior of swiss albino mice in an elevated plus maze and open field test as a model to evaluate the anxiolytic effect of synthetic coumarin derivativesi.e4-Methyl-2*H*-chromen-2-one and its substituted derivatives. The pechmann condensation provides route for synthesis of coumarin and its derivatives. For evaluating the antianxiety activity, swiss albino mice were divided into different groups and they were treated with different doses of the test compound and standard drug. 30 minutes after administration of test or standard drug antianxiety activity was checked on apparatus for 5 minutes. The data was subjected to analysis of variance by taking mean and standard error to the mean using Tukey's post-hoc test. In elevated plus maze, all the three tested compounds at high dose revealed increase in time spent in open arm and preference to open arm as compared to control. In open field test, all the three coumarin derivatives showed a significant increase in the number of square crossed and number of rearing as compared to control was observed. All of the changes were statistically highly significant. From the results, it can be concluded that the synthetic coumarin derivatives showed anxiolytic effects when administrated at high dose.

Keywords : Antianxiety, Elevated Plus Maze, Open Field Test, Coumarin, Heterocyclic compounds.

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