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Study of tolerance to the anti-nociceptive activity of dihydroxy flavones on Swiss albino mice

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The polyphenolic flavones and anthocyanis are present in various parts of the plants. These secondary metabolites have been ascribed with many important functions in plants. Various therapeutic effects have been investigated in flavones which include anti-inflammatory, antinociceptive, anxiolytic, anti-ulcer, anti-tumor activities. The dihydroxy flavones used in this study (2',3'-dihydroxy flavone, 2',4'-dihydroxy flavone) were synthesized adopting standard procedure at the Research Organics, Chennai. Melting point, Thin layer chromatography, U.V spectra and I.V spectra of the synthesized compound were compared with the standard samples and were found to be similar. Male Swiss albino mice (25-30 g) were housed at animal house Sri Ramachandra University. The influence of opioid system in the antinociceptive action of dihydroxy flavones were investigated by employing acetic acid induced abdominal constriction assay. Based upon the results of a previous experiment conducted indicates that involvement of opioid system in the antinociceptive action of dihydroxy flavone. This observation prompts the investigator to study the possible development of tolerance to the antinociceptive effect of these compounds. Both acute (three injections at four hour intervals) and chronic (five days treatment) tolerance study were conducted using the acetic acid induced abdominal constriction assay for the both dihydroxy flavones. Dihydroxy flavone derivatives were prepared as a uniform suspension in 1% carboxy methyl cellulose and injected by the subcutaneous route. The results of the experiment of the acute and chronic tolerance levels that the antinociceptive activity of the 2',3'-dihydroxy flavone, 2',4'-dihydroxy flavone were not altered after repeated administration either in the acute or the chronic study.

Biography

Edwin Rajkumar is currently receiving his Doctor of Pharmacy degree from Sri Ramachandra University. He has recently presented a poster at the Indian Pharmaceutical Congress held in Mysore India.

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