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Protective effect of adenosine A1 agonists against pentylenetetrazole-induced convulsions

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Aim of the Study: Pentylenetetrazol (PTZ) is a commonly employed chemoconvulsant, used for screening drugs for anticonvulsant activity. The present study is aimed at investigating the differential effects of adenosine and the adenosine A1 agonist, N6-Cyclopentyladenosine (CPA) against seizures induced by pentylenetetrazol (PTZ).

Methods: This study was carried out by investigating the effect of pretreatment of rats with adenosine and CPA on Pentylenetetrazole-induced seizures. Acute toxicity of PTZ in rats was studied by determination of median convulsive dose (CD50) of PTZ alone and after pretreatment of rats with each of adenosine and CPA.

Results: Adenosine, when administered to rats i.p in a dose of 1000 mg/kg 5 minutes prior to acute challenge with PTZ in a dose of 60 mg/kg, produced significant protection against PTZ- induced seizures. CPA, when administered i.p to rats in a dose of 10 mg/kg 60 minutes prior to acute challenge with PTZ in a dose of 60 mg/kg, also showed significant protection against PTZ induced seizures.

Conclusion: CPA significantly protected against seizures after acute PTZ administration and this indicates that the anticonvulsant effect of PTZ is via stimulation of A1 receptors.

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Augmentation of wound healing using latex from *Jatropha curcas*

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The latex of *Jatropha curcas* (Euphorbiaceae) is used as an anti-inflammatory and in various skin diseases such as scabies, eczema, ringworm etc. The present study was aimed to investigate wound healing potential of *Jatropha curcas* (JC) latex commonly employed by traditional healers and to prove its traditional use through scientific investigation. The wound healing activity of JC latex was determined using antioxidant, antibacterial, fibroblast proliferation with mouse fibroblast L929, excision, incision and dead space wound model in experimental rats. The latex was found to promote fibroblast L929 survivability more than 90%. It exhibited scavenging activity for DPPH with an IC₅₀ value of 20.4 µg/mL comparable to butylated hydroxyl toluene (BHT) 12.5 µg/mL. The latex was active against Gram positive bacteria, *S. aureus* and *B. subtilis* with zone of inhibition 17 mm and 18.5 mm respectively. Topical application of latex (2 and 5%) exhibited high rate of wound contraction, decrease in period of epithelialization, high tensile strength in excision, incision and dead space wound model in experimental rats. The JC latex provides scientific evidence of wound healing activity due to its antioxidant, antibacterial, and fibroblast as well as topical application of latex promotes wound healing.

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