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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 chemo-convulsant, used for screening drugs for anti-convulsant 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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