

## **INCREASED TOXICITY OF COCAINE ADULTERATED WITH ATROPINE: EFFICACY OF DIAZEPAM**

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Recently a number of intoxications have been reported involving the use of cocaine/atropine mixture (1). The present study was designed to explore in male Wistar rats the toxicity of cocaine and atropine given in combination at dosages chosen on the basis of the proportion found in the human intoxication (67% and 33%, respectively). The therapeutic potential of diazepam, was also tested. The effect of cocaine (40 mg/kg) and atropine (20 and 60 mg/kg) on body temperature, motor activity (2), seizures and death, when acutely or repeatedly given, was evaluated. (EEG) mean total spectral power (3) and cardiovascular parameters (mean blood pressure and heart rate) were also monitored for two hours after treatment. Treatment with atropine or cocaine alone did not produce any seizure or death, while the mixture produced a significant increase of both parameters either after acute or binge treatment. An increased of EEG mean total spectral power either in seizing or not seizing animals, was shown. Hyperlocomotion in cocaine and cocatropine non seizing treated animals, was observed. Treatment with cocaine, atropine 60 and cocatropine induced a hyperthermic effect in non seizing rats. In contrast, hypothermia in cocatropine (40 + 60) seizing animals, was shown. An initial hypertensive and tachycardic effect within 15 min followed by a secondary fall were observed in cocatropine (40+60) treated group. Cocatropine-induced toxicity was partially or fully reversed by treatment with diazepam (5 mg/kg), given i.p. after the first seizure. The present findings provide a detailed evidence for a toxic synergistic effect of the cocaine/atropine mixture and for the use of diazepam to treat cocatropine-related hospital emergencies.

- 1) Sedefov R., (2005) Drugnet Europe, April-June:p.6.
- 2) Braida D., Pozzi M., Cavallini R., Sala M.,(2002) Behav. Neurosci. 116:298-304.
- 3) Sala M., Leone M.P., Lampugnani P., Braida D., Gori E., (1995) Eur. J. Pharmacol. 273: 35-45.