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Ocular skew deviation in massive carisoprodol overdose

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Objective: Carisoprodol is a central acting muscle relaxant, which may cause central nervous system depression and some related symptoms. Skew deviation is a vertical misalignment of eyes which is usually caused by acute injury within the posterior fossa. It is rarely caused by metabolic encephalopathy or poisoning, and has never been reported in carisoprodol overdose. We report a case who intentionally ingested a large amount of carisoprodol, developed anticholinergic symptoms, skew deviation and prolonged coma. She finally recovered without sequela after ten days.

Case report: A 27-year-old woman, with a history of depression, attempted suicide with ingestion of 17.5 g of carisoprodol. She was found unconscious approximately 12 hours after ingestion and was sent to a local hospital. She was comatose, tachycardiac and febrile with mydriasis and developed an episode of seizure. She was intubated, treated with intravenous benzodiazepine, and then transferred to our emergency department (ED). On arrival to our ED, she was tachycardiac and mild hypotensive with a Glasgow coma scale of E1VeM4. Hypotension improved after fluid resuscitation. Physical examination revealed bilateral lung crackles, and an ocular skew deviation (spontaneous, slow, vertical, alternating eye movement, with a duration of 4 to 6 seconds). Pupils sizes were both 3 mm with light reflex. Vestibulo-ocular reflex was negative by doll's eye maneuver. There was no limb convulsion, rigidity, or clonus. Chest radiograph revealed diffuse patchy infiltrates in bilateral lung fields. Laboratory study were unremarkable except a serum procalcitonin of 2.31 ng/mL, a creatine kinase of 2063.0 U/L, and a bicarbonate 19.4 mm/L with pH 7.34. Computed tomography angiography of brain did not show any significant abnormality. Electroencephalography (EEG) did not reveal any epileptiform discharge but showed diffuse slow waves. We sent her urine sample for a basic drug screen (a qualitative confirmatory test for more than 300 common drugs, analyzed by gas chromatography and mass spectrometer) which was positive for carisoprodol, meprobamate, paroxetine, and flunitrazepam (the last two drugs were her regular drugs), of which meprobamate (metabolite of carisoprodol) had the highest signal in mass spectrogram.

Her consciousness recovered approximately 48 hours after ingestion but she developed severe aspiration pneumonitis. No further spontaneous eye movement was observed. She was discharged after 10 days of treatment without sequela.

Conclusion: Although it is not common, ocular skew deviation may be a transient presentation in massive carisoprodol overdose.