



Mail

Fatal peyote ingestion associated with Mallory-Weiss lacerations

To the editors,
Although mescaline use is often viewed as posing a minimal health risk, we encountered a case demonstrating that ingestion can be fatal. Peyote cactus buttons (*Lophophora williamsii*) are brewed into a tea to release mescaline (3,4,5-trimethoxyphenethylamine), a hallucinogenic alkaloid, and are used for Native American religious ceremonies.¹ The only fatality previously described with mescaline use was from trauma during a drug-induced delirium.² Botulism can be a consequence of peyote ingestion if the cactus buttons are stored in water.³ We report a case of fatal mescaline intoxication associated with Mallory-Weiss esophageal lacerations.

Physicians treating Native Americans should consider the possibility of peyote use in cases of unexplained esophageal lacerations.

A 32-year-old Native American man with a history of alcoholism ingested peyote tea. After an uncertain period of time with unknown symptoms, he developed respiratory distress and suddenly collapsed. He was transported to a hospital and died after unsuccessful resuscitative efforts. Autopsy demonstrated 4 separate 1 cm lacerations at the gastroesophageal junction, 45 ml of gastric luminal blood, duodenal blood, and marked pulmonary hemoaspiration. His liver had marked fatty change consistent with chronic alcoholism. An antemortem blood specimen contained 0.48 mg/L of mescaline and a urine specimen 61 mg/L of mescaline when analyzed by gas chromatography/mass spectrometry. A trace amount of chlordiazepoxide was also found in a blood specimen. No other drugs of abuse or ethanol were detected. Vitreous fluid electrolyte, crea-

tinine, urea nitrogen, and glucose concentrations were normal. The cause of death was certified as mescaline intoxication.

Mescaline is related to synthetic amphetamine derivatives used as street drugs.¹ Physiologically, mescaline can produce both increases and decreases in blood pressure and heart rate, respiratory depression, and vasodilation.⁴ Mescaline is well known for its emetic effects.⁴ Other substances that induce vomiting, such as ipecac, have caused Mallory-Weiss lacerations.⁵ The Mallory-Weiss esophageal lacerations in this case were probably a consequence of mescaline-induced forceful vomiting. The mechanism of death was likely hemoaspiration, although an additional adverse pharmacodynamic effect of mescaline on the cardiovascular system cannot be excluded. Physicians treating Native Americans should consider the possibility of peyote use in cases of unexplained esophageal lacerations. The use of peyote for religious or recreational purposes is not without risk.

Kurt B Nolte, MD
Office of the Medical Investigator
University of New Mexico School of Medicine
Albuquerque, NM 87131-5091

Medical Examiner/Coroner Information Sharing Program
National Center for Environmental Health
Centers for Disease Control and Prevention
Atlanta, GA 30341

Ross E Zumwalt, MD
Office of the Medical Investigator
University of New Mexico School of Medicine
Albuquerque, NM 87131-5091

References

1. Baselt RC, Cravey RH. Mescaline. In: Baselt RC, Cravey RH, eds. *Disposition of toxic drugs and chemicals in man*. Fourth ed. Foster City, CA: Chemical Toxicology Institute, 1995:466-7.
2. Reynolds PC, Jindrich EJ. A mescaline associated fatality. *J Anal Tox* 1985; 9:183-4.
3. Hashimoto H, Clyde VJ, Parko KL. Botulism from peyote (letter). *N Engl J Med* 1998; 339:203-4.
4. Kapadia GJ, Fayez MBE. Peyote constituents: chemistry, biogenesis, and biological effects. *J Pharm Sci* 1970; 59:1699-1727.
5. Tandberg D, Liechty EJ, Fishbein D. Mallory-Weiss syndrome: an unusual complication of ipecac-induced emesis. *Ann Emerg Med* 1981; 10:521-3.