

Muscimol and ibotenic acid containing mushrooms exposures: US National Poison Data System 2001-2011

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Background: There are several species of muscimol/ibotenic acid-containing mushrooms in the US including *Amanita muscaria* and *Amanita pantherina*. Data on exposure to these mushrooms is limited to case reports and small case series.

Research Question: What are the demographics, distribution, frequency, and outcomes of exposure to muscimol/ibotenic acid-containing mushrooms in the U.S.?

Methods: Retrospective review of NPDS muscimol-containing mushroom exposures from 2001-2011. Descriptive statistics were used to analyze the data.

Results: There were 66 pediatric exposures (<6 years) and 414 cases >6 years, or of unknown age. Three deaths were reported and all were intentional adult exposures. Thirty-five cases resulted in a major effect with 26 of these cited as intentional ingestions.

Observed effects were: none(14%), minor(20%), moderate(39%), major(7%), and unknown(20%). Other outcomes were: GI symptoms(29%), seizures(4%), and intubation(9%). Dispositions included: managed on-site(18%), treated and released(39%), admitted to the hospital(32%), and remainder unknown.

Compared to *A. pantherina*, *A. muscaria* ingestions were less likely to require critical care (20% vs 28%), less likely to have major or moderate effects (30% vs 15%), and to be intentional (66% vs 44%). Pediatric exposures accounted for 13% of cases overall, but with regional variability(>70% of Alaskan cases were <6yo). Only 13(20%) pediatric exposures developed symptoms. Three regions of the country accounted for the majority of exposures: Pacific West (31%), Northeast (20%), and East North Central (17%). Map of ingestions will be presented. There was marked seasonal variation with a predilection for fall (50% Aug-Oct; 81% July-Dec). Seventy-four percent of cases were from urban areas and 24% from rural areas.

Discussion: The majority of reported cases are intentional adult ingestions of *A. muscaria* or accidental adult ingestions of *A. pantherina* with >20% receiving critical care. *A. pantherina* exposures are more often unintentional with more severe effects, perhaps related to unintentional foraging compared to the distinctive *A. muscaria*. GI symptoms are relatively common. Pediatric exposures are less frequent and less likely to develop severe symptoms.

Conclusion:

Muscimol-containing mushroom exposures in children(<6years) are largely asymptomatic with rare severe symptoms and *A. pantherina* causing more severe toxicity than *A. muscaria*.