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111. Plant and fungi exposures reported to the Toxicology Investigators Consortium (ToxIC)

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Background: Plant and fungi represent a heterogeneous group of agents, with a wide range of clinical effects. Little has been published regarding the epidemiology or management of plant and fungi ingestions.

Research Question: To describe the prevalence of plant and fungi ingestions, including prevalence for specific agents, and review adverse outcomes and specific management strategies associated with specific agents.

Methods: The Toxicology Investigators Consortium (ToxIC) Registry records all clinical consults by an international network of medical toxicologists in a standardized fashion. ToxIC was queried for all cases of exposures categorized as “Plant and Fungi.” These exposures were categorized using descriptive statistics.

Results: About 427 Plant and Fungi exposures were reported to ToxIC between 2010 and 2016. Of these exposures, 178 (41.7%) were classified as mold exposure, 176 of which occurred in an outpatient clinic. Of the remaining 249 exposures, there were 64 unique agents reported. Intentional ingestions numbered 146 (58.6%), unintentional ingestions numbered 69 (27.7%), while in 26 the intent was unknown (10.4%). The five most common named exposures were psilocybin mushrooms (20, 8.0%), *Datura* species (16, 6.4%), *Mitragyna speciosa* or “kratom” (15, 6.0%), cyclopeptide-containing mushrooms (14, 5.6%), and *Nerium oleander* (11, 4.4%). There were 78 unknown/other mushroom exposures (31.3%). Other notable exposures include four castor bean exposures, three strychnine exposures, and three solanine exposures. Two deaths were reported, in a case of kratom exposure and in a case of cyclopeptide mushroom exposure. Toxicological antidotes were given in 61 cases (24.5%); the most common antidotes used were N-acetylcysteine (26), physostigmine (10), fab for digoxin (8), sodium bicarb (6), atropine (5), and naloxone (5). Seven of 16 *Datura* sp. poisonings received physostigmine, seven of 11 *Nerium oleander* poisonings received fab for digoxin, and 20 of 109 mushroom poisonings received N-acetylcysteine. Vasopressors were used in two patients, activated charcoal was given to 15 patients, and nine patients were intubated.

Discussion: Plant and fungi exposures reported to ToxIC between 2010 and 2016 were highly heterogeneous. Management strategies and clinical outcomes were variable given the disparate types of ingestions.

Conclusions: In cases recorded in the ToxIC registry, a wide variety of plant and fungi ingestions were reported although fatal outcomes were rare. ToxIC may be a viable tool for studying select rare plant and fungi exposures, including mushrooms, Datura, and Kratom.