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), phystostigmine (10), fab for digoxin (8), sodium bicarb (6), atropine (5), and naloxone (5). Seven of 16 Datura sp. poisonings received phystostigmine, 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.