

83. Clinical and Demographic Factors in Marijuana Toxicity: The ToxIC Registry Experience since 2010

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Background: Legalization of marijuana has increased its availability, and diversified the route of exposures. THC concentrations are also higher than in past decades. Such factors may alter exposure patterns and clinical effects of marijuana.

Methods: Cases involving marijuana as the sole primary agent reported to the ToxIC Registry between January 1, 2010 and March 31, 2015 were reviewed. Data collected included demographics, exposure year and conditions, clinical outcomes, and treatment.

Results: 223 cases listing marijuana as the sole primary agent were identified, and 158 cases from 14 states were included. 109 were males. Most (96) were ages 19 to 65 yrs. There were 45 teenagers (age 13–18 yrs), and 17 children \leq 12 yrs (8 under 2 yrs, 6 age 2–6 yrs, and 3 age 7–12 yrs). 15/17 (88%) pediatric cases occurred during or after 2013. Annual exposures increased from 9 in 2010 to 42 in 2014. Compared to total annual exposures, this represented a doubling, from 0.2% in 2010 to 0.4% in 2014. 22 (13.9%) were unintentional exposures, the proportion of which increased each year (0% in 2010, 4.0% in 2011, 11.1% in 2012, 12.8% in 2013, 21.4% in 2014, 37.5% in 2015). 20 (90.9%) unintentional exposures were in the pediatric population. 120 (75.9%) reported signs or symptoms of toxicity. Abnormal vital sign events included 8 hypertension (SBP > 200 mm Hg), 3 hypotension (SBP < 80 mm Hg), 17 tachycardia (HR > 140 bpm), 3 bradycardia (HR < 50 bpm), 1 bradypnea (RR < 10 bpm) and 1 hyperthermia (T > 105 F). Neurologic symptoms are detailed in Table 1. Unexpected clinical outcomes included 1 ventricular dysrhythmia, 4 respiratory depression, 3 metabolic acidosis (pH < 7.2), 2 acute kidney injury (Cr > 2.0), and 2 rhabdomyolysis (CPK > 1000). Toxicologic treatment was given in 68 (43.0%) patients.

Table 1.

Neurologic Symptoms	Number of Patients
Coma/CNS depression	24
Agitation	20
Delirium/Toxic Psychosis	16
Seizure	8
Hallucination	7
Weakness/paralysis/numbness/parasthesia	4
EPS/dystonia	1

Conclusions: 158 cases of marijuana as the single agent of toxicity were reported to the ToxIC Registry over 5.25 years. Since 2010, the number of exposures has increased. The rising number of pediatric exposures and proportion of unintentional exposures likely reflects wider availability of marijuana products resulting from legalization. Neurologic findings were common. Unexpected clinical outcomes including seizure, dysrhythmia, respiratory depression, metabolic acidosis, and acute kidney injury occurred. A limitation of this study is absence of confirmatory testing in all cases.