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98. Single-Drug Exposures Associated with Rhabdomyolysis - A Review of the ToxIC Registry Stephani JA, Hendrickson RG, On behalf of the ACMT Toxicology Investigators Consortium (ToxIC) *Oregon Health & Science University, Portland, OR, USA*

Introduction: Drugs and toxins are often cited as a cause of rhabdomyolysis, but there are little data regarding which xenobiotics are commonly implicated. Our objective is to characterize single-drug ingestions associated with rhabdomyolysis.

Methods: In this retrospective review of the Toxicology Investigators Consortium (ToxIC) registry, a search was completed for documented cases of rhabdomyolysis between January 2010 and September 2014. Cases were defined by creatine phosphokinase (CPK) >1,000 IU/L and were excluded if there was exposure to two or more xenobiotics. Individual xenobiotics, drug classes, demographics, signs, treatments, and outcomes including death were described.

Results: Two hundred twenty-five patients met inclusion criteria. Of these, 71 % were male and 80 % were between 19 and 65 years. Of the 75 different xenobiotics that were associated with rhabdomyolysis, methamphetamine was the most common, representing 14 % of all cases. Other common agents included diphenhydramine (7 %), heroin (6 %), and ethanol (5%). Common drug classes associated with rhabdomyolysis were sympathomimetics (30 %), opioids (17 %), anticholinergics (8 %), and sedative-hypnotics (6 %). Forty-two percent of cases involved exposure to illicit drugs of abuse, and 31 % of cases were associated with prescription medications. On presentation, 43 % had agitation, 38 % had CNS depression, and 30 % had delirium or toxic psychosis. Of all patients, 25 % had acute kidney injury (creatinine>2.0 mg/dl). CPK concentration was reported in 30 cases and ranged from 1,000 to 269, 816 IU/L. Pharmacologic support included benzodiazepines (47 % of cases), antipsychotics (9 %), and vasopressors (8 %). Four percent of patients received hemodialysis; 2 % received continuous renal replacement therapy, and 2 % received urinary alkalization. Seven patients died, representing an overall mortality of 3 %.

Discussion: Seventy-five different xenobioticswere associated with rhabdomyolysis in single-drug exposures. These are associations only, as we are unable to discern the direct cause of rhabdomyolysis in each case. Possible drug-related etiologies include direct myotoxicity, psychomotor agitation as seen with sympathomimetics or anticholinergics, or muscle ischemia from direct pressure in patients with CNS depression from sedative, opioid, or ethanol intoxication.

Conclusion: Common xenobiotics associated with rhabdomyolysis include sympathomimetics, opioids, anticholinergics, and sedativehypnotics. Providers should be aware of this association and consider screening for rhabdomyolysis in patients with these ingestions or exposures.