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76. Pediatric alpha-2 agonist exposures in the ToxIC Registry

Diane Han[1], Caitlin Bonney[2], Benjamin Hatten[2]

[1]Department of Emergency Medicine, Stanford University School of Medicine, Palo Alto, CA, USA ; [2]Department of Emergency Medicine, University of New Mexico School of Medicine, Albuquerque, NM, USA; [3]Department of Emergency Medicine, University of Colorado School of Medicine, United States; On Behalf of the Toxicology Investigators Consortium (ToxIC), Aurora, CO, USA

Objective: To describe outcomes following exposures to pediat- ric single agent alpha-2 agonist agents reported to the American College of Medical Toxicology (ACMT) Toxicology Investigators Consortium (ToxIC) between 2010 and 2022.

Methods: We performed a retrospective review of cases of pediatric (<18 years) single agent alpha-2 agonist exposures in the ACMT ToxIC Registry from January 1, 2010 through December 31, 2022. Data in the ToxIC registry is prospectively collected by consulting medical toxicologists at participating sites using a standardized form. Descriptive epidemiology is reported.

Results: This retrospective cohort study analyzed 658 clonidine exposures and 231 other alpha-2 agonists: tizanidine, guanfacine and dexmedetomidine. There were no pediatric cases involving xylazine. Hypotension (defined as systolic blood pressure <80mmHg) was documented in 126 (19%) cases of clonidine exposure and 175 (76%) cases of other alpha-2 agonists. Bradycardia (heart rate <50 beats per minute) was identified in 294 (45%) cases of clonidine exposure and in 123 cases of other alpha-2 agonists (53%). There were 74 (11%) cases of respiratory depression following clonidine exposure and 9 (4%) with other alpha-2 agents. Pressors were administered in 25 (4%) of clonidine cases and 6 (3%) of other alpha-2 agonists. Intubation was required in 75 (11%) cases of clonidine ingestion and 14 (6%) of other alpha-2 agonists. No deaths were reported in this cohort.

Conclusion: This data underscores the significant occurrence of hypotension in non-clonidine exposures, suggesting the potential for more dramatic cardiovascular effects with other alpha-2 agonists. Rates of bradycardia and pressor support were similar. However, clonidine exposures resulted in more cases of respiratory depression and intubation.