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40. Naloxone Administration in the Pediatric Population According to ToxIC Database Reporting

Fil LF[1], Nelson LN[2], Olsen D[3], On behalf of the ACMT Toxicology Investigators Consortium (ToxIC)

[1]North Shore University Hospital, Manhasset, NY, USA; [2]New York University Hospital, New York, NY, USA; [3]New York City Poison Control Center, New York, NY, USA

Background: In 2009, ACMT established the Toxicology Investigators Consortium (ToxIC). This network was constituted to promote multicenter research in toxicology and enable the nationwide collection of important toxicological data from patients at the bedside. We used the ToxIC database to investigate characteristics of pediatric patients receiving naloxone over 1 year.

Research question: What are the characteristics of patients age 18 years and younger that received naloxone?

Methods: We searched the ToxIC database for all cases of patients who received naloxone from October 1, 2012 to September 30, 2013. Patients ages 18 years and youngerwere examined and divided in four groups: age <2, 2–6, 7–12, and 13–18 years. Patients were evaluated for sex, type of exposure, and indication for naloxone administration and specific xenobiotic implicated.

Results: Five hundred fifty-seven patients were recorded as given naloxone during the study period. Sixty-eight (12.2 %) of the patients were 18 years and younger; of these, 14 (2.5%) were <2 years, 17 (3.1%) were 2–6 years, 4 (0.7 %) were 7–12 years, and 33 (5.7 %) were 13–18 years. The number of males were greater than females in all groups except the 7 to 12-year group (males=females). For ages <2, 2–6, and 7–12 years, unintentional pharmacologic exposure was associated with receiving naloxone in 85.7, 88.2, and 50 % of cases, respectively. Patients of 13–18 years had 0.0 % unintentional pharmacologic exposures. Patients received naloxone for coma and/or respiratory depression in 78.6 % for the <2-year group, 76.5%in the 2- to 6-year group, 100%in the 7- to 12-year group, and 60.6 % in the 13- to 18-year group. The proportion of xenobiotics associated with naloxone administration in each age group was calculated. The most common xenobiotics associated with naloxone administration were buprenorphine (17.7 %), oxycodone (13.2 %), and clonidine (11.8 %).

Discussion: The prescription opioid abuse epidemic results in increased availability of opioids in the home. The ToxIC database shows that naloxone use in children is mostly due to unintentional pharmacologic exposures which support this. The most common xenobiotic implicated was buprenorphine.

Conclusion: According to the ToxIC database, the most common cause for naloxone administration in the pediatric population was unintentional pharmacologic exposure.