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110. Elder Toxicology: Characterizing Intentional Pharmaceutical Exposures in the Aged Population Using the ToxIC Registry

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Background: The ageing and elderly (age ≥65 years of age) represent 15 % of the US population. Comprising 40 % of all hospitalizations, they are the most medicated age group and one that is at high risk for overdose. Little has been published characterizing the clinical details of intentional pharmaceutical exposures in the aged.

Hypothesis: We hypothesize that greater age confers greater risk of death from overdose.

Methods: Data from the ACMT ToxIC database were obtained from January 1, 2010 to October 1, 2015. We performed age-specific queries with respect to intentional pharmaceutical exposures and extracted all available clinical data points from all aged patients. For the purposes of analysis, age groups were defined as "aging" (age 66–89 years) and "elderly" (age > 89 years).

Results: Of 3288 intentional pharmaceutical exposures, 2355 occurred in patients > 18 years of age. Of these, 145 (6.2 %) occurred in the ageing group, 9 (0.4 %) in the elderly. There were 90 (62.1 %) exposures involving single agents in the ageing, compared to 8 (88.9 %) in the elderly. Adverse drug reaction or medication error occurred in the ageing and elderly populations 49 (33.7 %) and 4 (44.4 %) times, respectively. Compared to the ageing group, elderly exposures were slightly more often from self-harm (29 vs 33.3 %) and resulted in greater ICU admissions (20 vs 33.3 %) and usage of vasopressors (9 vs. 22 %). Of the 209 total agent exposures, cardiovascular agents were the primary agent of concern in 49 (23.4 %) of cases, followed distantly by acetaminophen, benzodiazepines and opiates (22, 22, and 17 cases, respectively). Digoxin was responsible in over 1/3 of cardiovascular agent toxicities. Despite similar need for toxicological treatment (ageing 77.9 %, elderly 66.7 %), death was more common in elderly exposures (2 vs 11 %).

Discussion: Using the ACMT ToxIC Database, we offer the characterization of the single largest bedside toxicology database with respect to pharmaceutical exposures in the aging and elderly population.

Conclusion: While limited by a small sample size, increased age appears to confer increased risk for significant illness and death from intentional exposure. Further study regarding variables contributing to exposure and death in this population may prove beneficial.