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280. Characteristics of salicylate ingestions reported to the toxic registry

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Background: Acetylsalicylic acid (ASA) overdose may result in morbidity and mortality and is an important public health issue. The Toxicology Investigators Consortium (Toxic) Registry was analyzed to determine the demographic characteristics, dosage, and outcome of all salicylate ingestions reported to the registry since its inception.

Methods: We queried the Toxic Registry database for all cases from January 1, 2010 to April 1, 2014. Inclusion criteria included aspirin exposure. Data collected included age, gender, nature of exposure (e.g. intentional), presence of co-ingestants, dose, serum salicylate concentration (SSC), use of activated charcoal (AC), gastric lavage (GL), whole bowel irrigation (WBI), sodium bicarbonate administration (SB), endotracheal intubation (ET), multiple-dose activated charcoal (MDAC), urinary alkalization (UA), hemodialysis (HD) and patient outcome. Regression analysis was used to determine if significant associations existed between SSC and AC, SB, UA, HD, and ET. Chi square analysis was performed to determine if significant associations existed between nature of exposure or presence of co-ingestants and AC, GL, WBI, SB, UA, MDAC, and HD.

Results: Over the 51-month study period, 775 cases met the inclusion criteria. Most cases were reported in females (64%), of whom 7 were pregnant (1%). The most common age range was 19– 65 (54%). The majority of salicylate ingestions were intentional (84%) and were single agent exposures (57%). AC was administered in 17% of cases, GL was done in 1% of cases, and WBI in 0.4% of cases. MDAC was administered in 4% of cases, UA was performed in 17% of cases, and HD was initiated in 5% of cases. Dose was reported in 5% of cases and ranged from 0.325g to 325g with a median of 16.1g and a mean of 30.3g. SSC was reported in 16% of cases and ranged from 6mg/dL to 131mg/dL with a median of 45.5mg/dL and mean of 47.1mg/dL. Logistic regression demonstrated no statistically significant relationship between SSC and administration of AC or WBI. Logistic regression demonstrated a significant positive association between SSC and SB, UA, HD, and ET (all $p < 0.05$). Chi square analysis demonstrated that intentional ingestions were more likely to be treated with AC, and single ingestions were less likely to be treated with AC, GL, SB, UA, and MDAC (all $p < 0.05$).

Conclusions: Most salicylate ingestions reported to the Toxic Registry occurred in females, were intentional in nature, and were single agent exposures. Serum salicylate concentration was predictive of UA, HD, SB, and ET but not AC. Intentional overdose was predictive of AC. Limitations of our study include incomplete reporting of dose and SSC.