



Use of Multi-Drug Activated Charcoal in the ToxIC Registry

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Background

- The 1999 AACT and EAPCCT position paper provides an evidence-based review of the use of Multi-Dose Activated Charcoal (MDAC) for acute poisonings.
- The ToxIC registry is a robust data source that offers important epidemiological insight on poisoning trends and practices.

Hypothesis:

- Do current MDAC treatment practices by Toxicologists involved in the Toxicologic Investigators Consortium align with published guidelines?

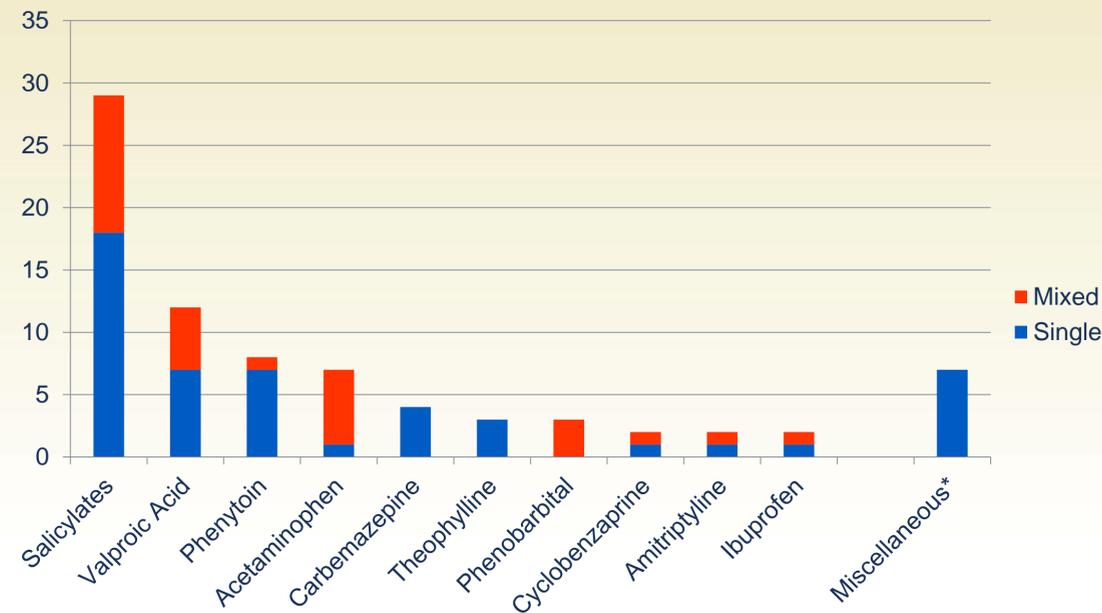
Methods

- We reviewed the ToxIC Case Registry in its entirety (2010-present) for cases involving MDAC treatment.
- Descriptive statistics were used for analysis.

Results

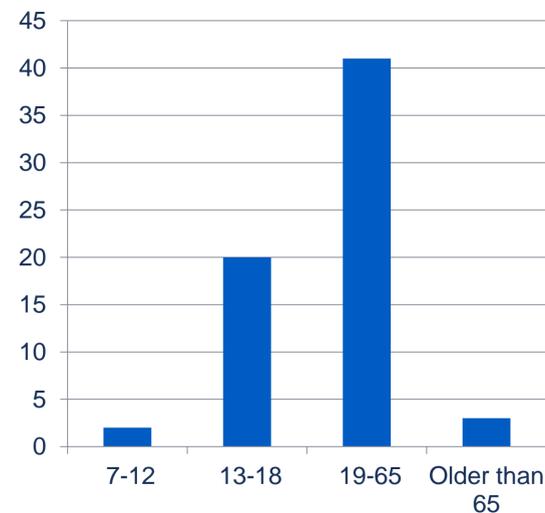
- Out of nearly 25,000 case entries, the registry contained 66 patients treated with MDAC for acute poisoning which we categorize accordingly:
- Toxins involved (total cases of single ingestion vs mixed co-ingestion):
 - Salicylates - 29 (44%) vs 11 (17%)
 - Valproic Acid – 12 (18%) vs 5 (8%)
 - Phenytoin – 8 (12%) vs 1 (2%)
 - Acetaminophen – 7 (11%) vs 6 (9%)
 - Carbamazepine – 4 (6%)
 - Theophylline – 3 (5%)
 - Phenobarbital – 3 (5%) vs 3 (5%)
 - Cyclobenzaprine – 2 (3%) vs 1(2%)
 - Amitriptyline – 2 (3%) vs 1(2%)
 - Ibuprofen – 2 (3%) vs 1(2%)

Distribution of Single vs. Mixed Ingestions (n=66)

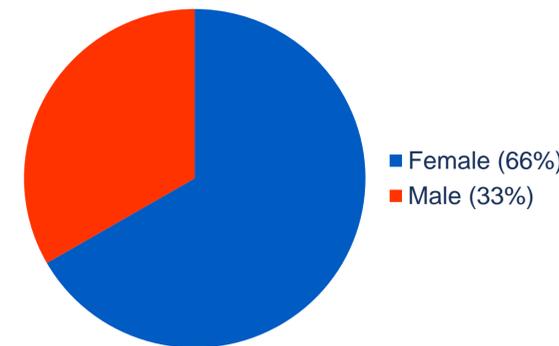


* Single cases: Lamotrigine, cyclopeptide-containing mushrooms, colchicine, XR diltiazem, propoxyphen, atenolol, and quetiapine.

Patient Age



Gender Distribution



Results (Cont.)

- 7 cases of miscellaneous single, un-mixed ingestions (see chart).
- Age:
 - 2 (3%) were between 7-12 years old
 - 20 (30%) were between 13-18 years old
 - 41 (62%) were between 19-65 years old
 - 3 (5%) were older
- Gender:
 - 44 (66%) were female; 1 was pregnant

Discussion

- Previously published practice guidelines suggest MDAC should be considered in life-threatening poisonings involving **carbamazepine, dapsone, phenobarbital, quinine** or **theophylline**.
- Despite consensus guidelines specifically recommending against using MDAC treatment for salicylate poisoning, the most common Registry recorded drug ingestions treated by MDAC were salicylates, with several possible explanations.
- Clearly, this recommendation remains controversial.

Conclusion

MDAC is infrequently used to facilitate drug elimination in ToxIC cases and practice contrasts somewhat from published guidelines. An update on MDAC use is warranted.

