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## 162. Toxicological Exposures in Patients With QRS Widening as Described in the ToxIC Database

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**Background:** Clinical management of sodium channel blockade and QRS widening in poisoning originated from research regarding tricyclic antidepressant (TCA) overdose. As TCA prescribing decreases, it is important to characterize the agents involved in sodium channel blockade in recent years. Patients with QRS widening are exposed to antiarrhythmics, antiepileptics, antihistamines, and newer antidepressants.

**Methods:** This is a retrospective analysis of the Toxicology Investigators Consortium (ToxIC) registry. We requested cases from 2010 — 2021 of adults age 19 and above with documented QRS > 120 ms. We excluded patients whose signs/symptoms were documented “unlikely” related to their exposure, chronic exposures, and “not applicable” exposures/envenomation, as well as those without a toxicological exposure. Our primary outcome was the proportion of patients exposed to each category and specific xenobiotic; secondary outcomes included trends in exposure over time and clinical outcomes.

**Results:** 796 patients were included. 738 (92.7%) were 19 – 65 years old, and 421 (52.9%) were female. 38.1% received sodium bicarbonate, 8.54% developed ventricular dysrhythmias, 24.6% received vasopressors, and 6.16% received CPR. The most common exposure categories were antidepressants (40.5%), sedative hypnotics (17.0%), antipsychotics (15.0%), and cardiovascular medications (14.6%). The most common xenobiotic exposures were amitriptyline (n = 93, 11.68%), quetiapine (73, 9.17%), bupropion (69, 8.67%), acetaminophen (68, 8.54%), and diphenhydramine (67, 8.42%). The proportion of patients exposed to TCAs peaked in 2016 (33.3%) and have since decreased, while the proportions of exposures to bupropion, lamotrigine, and cardiovascular medications increased over the study period.

**Conclusion:** Amitriptyline is the most common exposure among patients with QRS widening. Other exposures such as bupropion, cardiovascular medications, and lamotrigine are becoming more common. This study is descriptive in nature and cannot establish definitive association between exposure and QRS widening, represented in the prevalence of xenobiotics not typically believed to cause QRS widening (quetiapine, acetaminophen).