

Presented at Annual Scientific Meeting (ASM) 2026 - Boston, MA
Published in J Med Toxicol 2026;22:104.

186. An Analysis of Toxicology Consults Without Evidence of Intoxication: Re-Visiting No Underlying Toxicological Syndrome

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Background: There is limited information regarding residency training programs of BC medical toxicologists, and this data can be useful in targeting engagement with trainees considering fellowship.

Hypothesis or Research Question: Which residency programs have produced the most medical toxicologists? Are medical toxicologists more likely to graduate from residencies that have an affiliated MT fellowship?

Methods: Using the Toxicology Investigators Consortium (Toxic) Core Registry we identified cases evaluated by a medical toxicologist between December 2010 and June 2024 that either did not have any signs or symptoms (S/S), or if they did, new ones found to be unrelated to any exposure sure by the evaluating toxicologist. We performed qualitative statistical analysis that sorted the cases by category and generated a list of agents that had the highest/lowest rate of cases either being either without signs and symptoms or, if present, were unlikely related to an exposure. A regularized regression technique, elastic net, was performed to explore additional potential relationships that might predict non-toxicological exposures.

Results: Of a total of 17,052 cases, 14,336 cases were found to have exposures that were without S/S and 2,716 were unrelated to the exposure. The most common agent classes without any S/S, when normalized, were insecticides, foreign objects, metals, anticoagulants, and GI medications. Of those that were unlikely to have caused the S/S, plants/fungi, herbicides, insecticides, metals, and foreign objects were the most common groups. These cases were also delineated into sets of data that we pediatric or outpatient vs. inpatient and analyses repeated. The exploratory analysis suggested factors such as outpatient evaluations, unusual or uncommon agents, and reporting certain clinical symptoms such as agitation were associated with consults later deemed to be non-toxic.

Conclusion: Our study demonstrates that in a significant number of cases referred for medical toxicology consultation no underlying toxicology syndrome exists. Certain agents and factors are associated with this phenomenon including plants/fungi, toxins, metals, and occupational evaluations.

Toxic: This research was performed by the ACMT Toxicology Investigators Consortium