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190. Characterizing herbals and dietary supplements toxicities using the Toxicology Investigators Consortium (Toxic) registry

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Background: Toxicities resulting from herbals and dietary supplements are likely under-recognized. The Toxic Registry is a national database of consultations provided by medical toxicologists.

Objective: To characterize herbals and dietary supplements toxicities using preliminary data from the Toxic registry.

Methods: The Toxic Registry began collecting data on bedside toxicology consults in January 2010. Patient demographic and healthcare data is de-identified and entered into a prepared password protected electronic database with fixed fields and is maintained by the American College of Clinical Toxicology. For this study, the database was retrospectively queried for all herbals, dietary supplements and vitamins cases between January 15, 2010 and March 30, 2012.

Results: During period studied, the Toxic Registry collected data on 12,125 cases. Herbals, dietary supplements and vitamins accounted for 65 (0.5%) cases. The largest age group involved in these cases was 19–65 years (35, 53.8%), while 43% (28) were 18 years of age or younger. Thirty-six patients (55%) were female. Substances ingested most commonly were multi-vitamins (9, 13.8%) followed by caffeine (8, 12.3%), iron formulations (7.7%), vitamin C (4, 6%) and echinacea (3, 4.6%). Twenty-seven cases (42%) involved co-ingestants: most commonly non-opioid analgesics (13, 20%) then sedative/hypnotics (9, 13.8%) and either EtOH, anticholinergics/antihistamines or cardiovascular medications (5, 7.7%). Nine (13.8%) patients exhibited toxidromes on presentation, including 2 anticholinergic, 5 sedative-hypnotic and 2 sympathomimetic. The most commonly associated end-organ toxicities were neurologic (27, 41.5%) followed by cardiovascular effects. Five (7.7%) patients had a metabolic acidosis and 3 (4.6%) had electrolyte abnormalities. Three (4.6%) patients developed coagulopathies. Five (7.7%) patients developed acute kidney injury. Two (3.1%) developed rhabdomyolysis. Regarding treatment, 9 patients (13.8%) received benzodiazepines, 7 (10.7%) received N-Acetylcysteine, 2 (3.1%) received activated charcoal and 2 (3.1%) underwent urinary alkalinization. Fifteen (23%) patients received IVF resuscitation and 4 (6%) required endotracheal intubation.

Conclusions: Herbals, dietary supplements and vitamins poisoning cases are a small but important proportion of cases of sufficient seriousness to require care by medical toxicologists. Although further research is needed, this initial characterization of patients poisoned by herbals, dietary supplements and vitamins may contribute to the development of educational and prevention efforts.