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37. Bedside Evaluation of Adverse Drug Events by Medical Toxicologists

Farmer BM¹, Nelson LS², Perrone J³, On behalf of the ACMT Toxicology Investigators Consortium (ToxIC) Weill-Cornell Medical College, New York, NY, USA; ²New York University School of Medicine/Bellevue Hospital Center, New York, NY, USA; ³Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, USA

Background: Adverse drug events (ADEs) are defined as untoward outcomes associated with the use of a drug, including adverse reactions and medication errors. ADEs contribute significantly to iatrogenic morbidity and mortality and are generally preventable. Medical toxicologists (MTs) may be consulted in the care of patients with ADEs due to severity of symptoms and their expertise in antidote use, drug interactions, and care of poisoned patients.

Research question: We sought to describe the clinical characteristics of ADEs leading to bedside toxicology consultation.

Methods: The ToxIC registry from January 2010 to October 2013 was examined to identify ADEs as the primary reason for consultation. These cases were analyzed for patient demographics, classes of drugs involved, presence of toxidromes, and clinical findings.

Results: A total of 309 ADEs were identified involving 166 women and 143 men. Patients were between the ages of 19–65 (206), age >65 years old (64), and age <18 years old (37). There were 241 cases involving 1 drug and 51 cases involving more than 1 drug. Fourteen cases did not describe the drug involved. The most common drugs/classes of drugs involved were: sedative hypnotics (71), opioids (62), antidepressants (48), cardiovascular drugs (36), anticholinergic/antihistamines (33), antipsychotics (32), anticonvulsants (24), analgesics (22), lithium (17), local anesthetics (6), stimulants/sympathomimetics (5), diabetic medications (4), nutritional supplements (4), chemotherapeutics (3), and antidotes (3). In 285 cases, patients developed clinical effects from the ADEs. Toxidromes were present in 90 cases with 6 patients experiencing more than 1 toxidrome: opioid (8), sedative-hypnotic (24), anticholinergic (24), cholinergic (2), sympathomimetic (3), withdrawal (7), serotonin syndrome (26), and NMS (2). Cardiovascular effects (91 cases) included heart rate and electrocardiogram abnormalities. Pulmonary findings (35 cases) were primarily respiratory depression. Neurologic abnormalities (196 cases) included altered mentation and seizures. Metabolic derangements (26 cases), gastrointestinal or hepatic abnormalities (31 cases), and renal injury or rhabdomyolysis (35 cases) were also frequently present. Discussion/Conclusions: MTs consult on a wide range of ADEs in patients of all ages. Toxidromes or organ-specific findings are often present and may lead clinicians to seek expert advice. Further analysis of this and similar cohorts may generate ADE prevention strategies.