Correction

Dear Reader: In the article "Managing Anticholinergic Side Effects" by Joseph A. Lieberman, III, MD, MPH (Prim Care Companion J Clin Psychiatry 2004;6[suppl 2]:20–23), the erroneous statement was made on page 23 that atropine can be used to treat anticholinergic delirium symptoms. A reader alerted us to this error and correctly notes that atropine is a potent anticholinergic agent that would worsen symptoms. This sentence has been removed from the online version of the article at *PCC*'s Web site.

If anticholinergic poisoning is suspected (eg, related to overdose, usually with multiple medications including psychoactive ones), a poison control center should be consulted (United States Poison Control Network at 1-800-222-1222 or an international center http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/).

Diagnosis is critical since other conditions including serotonin syndrome may mimic several, though not all, of the classic symptoms of anticholinergic poisoning. The classic symptoms include the Alice in Wonderland constellation of "dry as a bone" (anhidrosis from interference with sweat gland innervation), "red as a beet" (cutaneous vasodilation compensating for the loss of sweat production), "hot as a hare" (anhidrotic hyperthermia), "full as a flask" (urinary retention from anticholinergic reduction of detrusor contraction reducing the urge to urinate and preventing normal opening of the urethral sphincter), "blind as a bat" (nonreactive mydriasis, anticholinergic medications produce pupillary dilation and ineffective accommodation that frequently manifests as blurry vision), and "mad as a hatter" (delirium, hallucinations, anxiety, agitation, dysarthria, disorientation, visual hallucinations, bizarre behavior, delirium, psychosis, coma, and seizures). While serotonin syndrome may cause agitation, tachycardia, and hyperthermia, it usually can be differentiated from anticholinergic toxicity since it causes diaphoresis with profuse sweating. Salicylate overdose may cause hyperthermia and altered mental status, but not other classic symptoms.

Treatment of anticholinergic poisoning generally involves decontamination (use of activated charcoal in alert patients) and treatment of hyperthermia and of any cardiac rhythm abnormalities (prolonged QRS or QT). Agitation may be controlled with benzodiazepines. If both physical and mental symptoms of poisoning are significant, physostigmine, which crosses the blood-brain barrier, may be considered as an antidote. No large study has evaluated its efficacy and safety in such use. It should not be used in related conditions such as tricyclic overdose since it has led to asystole in case reports. When physostigmine is administered, cardiac monitoring should be in place, and atropine and resuscitative equipment should be immediately available. Again, given the infrequent use of physostigmine in most settings, consultation with a poison control center is recommended before initiating such therapy.

Larry Culpepper, MD, MPH
Editor in Chief
Joseph A. Lieberman, III, MD, MPH

© Copyright 2012 Physicians Postgraduate Press, Inc.