



Poison HOTLINE

Partnership between Iowa Health System and
University of Iowa Hospitals and Clinics

March 2012



Did you know

Past issues of the Poison Hotline e-newsletter are archived on the website. If you need a refresher on the drugs of abuse K2 and Bath salts, overdoses on Wellbutrin, or the symptoms seen with serotonin syndrome for example, visit <http://www.iowapoisson.org/index.asp?pageID=245>. Poison Hotlines from the last three years are available.

**March 18 – 24, 2012
is National Poison
Prevention Week (NPPW).**

www.iowapoisson.org

Use of Physostigmine in Toxicology

Physostigmine is a cholinesterase inhibitor which is used in the diagnosis, and sometimes treatment, of anticholinergic poisoning. Physostigmine has a short half-life, and anticholinergic symptoms often return once the physostigmine has been metabolized. Depending upon how much anticholinergic the person has been exposed to, the effects of physostigmine may last as little as 15 minutes. Therefore, physostigmine is frequently used only as a diagnostic tool.

Another reason why the use of physostigmine in poisonings and overdoses is uncommon is because of the adverse effects and deaths associated with its use. Physostigmine should NEVER be given in the presence of a tricyclic antidepressant (TCA) ingestion. Seizures, ventricular dysrhythmias, and asystole have been reported following physostigmine administration in persons with a TCA overdose. Other situations in which physostigmine should not be used include: (a) patients with exposures to other sodium channel blocking agents (e.g. diphenhydramine) and (b) any patient with a cardiac conduction disturbance. Rapid administration of physostigmine can lead to seizures and / or cardiac dysrhythmias, including asystole. Other adverse effects include cholinergic symptoms such as nausea, vomiting, diarrhea, diaphoresis, increased bronchial or salivary secretions, bradycardia, muscle weakness and hypotension. Airway obstruction can result from excess secretions.

Physostigmine should only be used after consultation with a toxicologist. The patient must have IV access and continuous cardiac monitoring prior to and during physostigmine administration. Atropine should be at the bedside in case the patient develops excessive cholinergic symptoms.

Physostigmine can be a useful diagnostic tool in persons exposed to pure anticholinergic agents, such as atropine or scopolamine, which do not affect cardiac conduction. It may also be efficacious in treating these pure anticholinergic exposures. However, its use has become limited due to the risk of severe side effects including seizures, arrhythmias and death. Fortunately most anticholinergic exposures can be managed with symptomatic and supportive care.

For questions regarding the use of physostigmine, please call Iowa Statewide Poison Control Center at **1-800-222-1222**.

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Certified Specialist in Poison Information*

**POISON
Help**
1-800-222-1222

Post and share this edition of **Poison Hotline** with your colleagues. Send comments or questions to Poison Hotline, 712-234-8775 (fax) or noblef@ihs.org. To subscribe or unsubscribe from this distribution list, contact the Iowa Poison Center education office at 712-279-3717. Read past issues of **Poison Hotline** at www.iowapoisson.org.