toxtidbits
the maryland poison center's monthly update. news. advances. information.
1-800-222-1222
March 2007

Atomoxetine (Strattera®)

Atomoxetine (Strattera®) is approved for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) in children over 6 years old and adults. It is pharmacologically different than the stimulants (such as methylphenidate) and other drugs (clonidine, tricyclic antidepressants, bupropion, venlafaxine) used for ADHD. The exact mechanism by which atomoxetine produces its therapeutic effects in ADHD is unknown; however, it might increase norepinephrine levels by selective inhibition of the presynaptic norepinephrine transporter. It has little or no effect on other neuronal transporters or on dopaminergic, serotonergic, muscarinic, or histaminic receptor sites.

Atomoxetine is rapidly absorbed from the gastrointestinal tract. Peak blood levels occur within two hours of ingestion, and it has a half-life of five hours. The metabolism of atomoxetine is similar to that of the amphetamines. Hepatic metabolism occurs via cytochrome P450 2D6, forming the active metabolite, 4-hydroxyatomoxetine. Patients who are "poor metabolizers" (approximately 5-15% of Caucasians) as well as patients who co-ingest drugs that are P450 2D6 inhibitors (such as fluoxetine, paroxetine) may have significantly higher plasma levels of atomoxetine.

Overdoses occur as a result of therapeutic errors, unintentional ingestions in small children and intentional overdoses in adolescents and adults. There are few case reports of atomoxetine overdoses in the medical literature. The toxic dose of atomoxetine has not been established; however, in one case series of ingestions in children and adolescents reported to poison centers, no severe symptoms were reported in seven patients who intentionally ingested more than the maximum recommended total daily dose (>100 mg). Clinical effects that have been reported include nausea, vomiting, drowsiness, mild tachycardia, hypertension and rarely seizures. Retrospective studies of atomoxetine ingestions in children reported to poison centers indicate that severe toxicity is unlikely to occur with only lethargy and mild elevations in heart rate and blood pressure noted.

Treatment of atomoxetine overdoses consists of the administration of activated charcoal and supportive care.

DID YOU KNOW THAT… *prehospital administration of activated charcoal by EMS providers may reduce time to gastric decontamination by 1 hour or more?*

Activated charcoal reduces the absorption of many drugs and toxins when given in a timely manner. Studies show that when activated charcoal is not given by EMS providers, there is an average time delay of 50 minutes with as long as 90 minutes before it is given in the emergency department. Activated charcoal administration by EMS should be considered if the toxin is adsorbed by charcoal and the patient can adequately protect their airway. Call the Maryland Poison Center for recommendations on the prehospital administration of activated charcoal.

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Maryland Poison Center
University of Maryland School of Pharmacy

If you do not wish to receive faxes or emails from the Maryland Poison Center, call 410.706.7604 or circle your fax number and fax this back to 410.706.7184.
Supported by Maryland Department of Health and Mental Hygiene

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