

## HEALTH AND DRUG ALERTS

## Suicidal ideation among children taking atomoxetine (Strattera)

**Reason for posting:** As a nonstimulant, atomoxetine is a popular new treatment for attention-deficit hyperactivity disorder (ADHD). However, the US Food and Drug Administration and Health Canada recently warned of increased rates of suicidal ideation among children taking the drug in placebo-controlled trials. This comes in addition to postmarketing reports of suicidal ideation in and suicide attempts and completed attempts by some children and adults given the drug.<sup>1</sup>

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### Box 1: Adverse effects of atomoxetine

#### Serious effects

- Hepatotoxicity
- Sedation, impaired motor skills
- Suicidal thoughts or actions
- Weight loss or slowed growth

#### Effects common among children

- Decreased appetite
- Dizziness
- Fatigue
- Gastrointestinal upset
- Mood swings
- Nausea, vomiting

#### Effects common among adults

- Appetite decline
- Constipation
- Appetite decline
- Dry mouth
- Dysmenorrhea
- Erectile or ejaculatory dysfunction
- Nausea
- Sleep problems
- Urinary hesitancy

Adapted from the US Food and Drug Administration patient information handout available at [www.fda.gov/cder/drug/infopage/atomoxetine/default.htm](http://www.fda.gov/cder/drug/infopage/atomoxetine/default.htm) (accessed 9 Nov 2005).

**The drug:** ADHD is hypothesized to involve altered central dopaminergic and noradrenergic tone, and atomoxetine acts as a selective norepinephrine reuptake inhibitor. It is metabolized in the liver by the CYP2D6 enzyme, glucuronidated and then excreted renally. Depending on whether the patient carries a polymorphism of CYP2D6 that makes him or her a “poor metabolizer” (about 5%–10% of patients), the drug’s half-life ranges between 5 and 22 hours.<sup>2</sup> It is more effective than placebo but may be less effective and slower-acting than stimulants such as methylphenidate.<sup>3</sup> Serious and common adverse effects of atomoxetine are listed in Box 1.

The unpublished meta-analysis that prompted the warnings reviewed 12 studies, 11 of ADHD and 1 of enuresis. The studies were of 6–18 weeks’ duration, but other key clinical details (e.g., baseline characteristics of the participants, screening tools used, comorbidities, concomitant medications, doses) are not available. Suicidal ideation is reported to have occurred in 5 (0.37%) of 1357 children given atomoxetine but none of 851 children given placebo.<sup>1</sup> All reports of suicidal ideation were in children aged 7–12 years; one attempted suicide. Older adolescents made up a quarter of the children studied, but none reported suicidal ideation. A separate analysis of clinical trials involving adults apparently showed no difference in rates of suicidal ideation.<sup>1</sup>

**What to do:** Suicidality is a rare but serious adverse effect of this drug. Although atomoxetine is not indicated for use as an antidepressant, it acts using a similar mechanism (inhibition of synaptic neurotransmitter reuptake). Around 1 in 50 children prescribed antidepressants have increased thoughts of suicide ([www.fda.gov/cder/drug/infopage/effexor/default.htm](http://www.fda.gov/cder/drug/infopage/effexor/default.htm)). Parents should be warned to watch for this newly recognized serious adverse effect, and anyone prescribed the drug should be screened at baseline and regularly thereafter for symptoms of depression, irritability, anxiety, suicidality, agitation or behavioural disturbances.

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### REFERENCES

1. Warning for atomoxetine regarding the potential for behavioural and emotional changes, including risk of self harm. [Dear Healthcare Professional Letter]. Available: [www.hc-sc.gc.ca/dhp-mps/medeff/advisories-avis/prof/strattera\\_hpc-cps\\_e.html](http://www.hc-sc.gc.ca/dhp-mps/medeff/advisories-avis/prof/strattera_hpc-cps_e.html) (accessed 9 Nov 2005).
2. Atomoxetine (Strattera) for ADHD. *The Medical Letter* 2003;45(1149):11-2.
3. Atomoxetine (Strattera) Revisited. *The Medical Letter* 2004;46(1189):65.

### Early release

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