



# Vortioxetine (Brintellix) for the Treatment of Depression

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STEPS new drug reviews cover Safety, Tolerability, Effectiveness, Price, and Simplicity. Each independent review is provided by authors who have no financial association with the drug manufacturer.

This series is coordinated by Allen F. Shaughnessy, PharmD, MMedEd, Contributing Editor.

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Vortioxetine (Brintellix) is an antidepressant that works through serotonin reuptake inhibition and direct receptor activity, acting as both a serotonin receptor agonist and antagonist.<sup>1</sup> It is labeled for the treatment of major depressive disorder in adults.

Drug	Dosage	Dose form	Cost*
Vortioxetine (Brintellix)	5 mg or 10 mg once daily	5-, 10-, 15-, or 20-mg immediate-release tablets	\$254

\*—Estimated retail price of one month's treatment based on information obtained at <http://www.goodrx.com> (accessed December 15, 2014).

## SAFETY

The safety profile of vortioxetine is similar to that of other selective serotonin reuptake inhibitors and serotonin-norepinephrine reuptake inhibitors. As with other antidepressants in this class, vortioxetine includes a black box warning of increased risk of suicidal thoughts and behavior in children, adolescents, and young adults. It may also cause clinical worsening or activation of mania or hypomania.<sup>2</sup> However, current data show no increase in suicidality in the first year of use.<sup>3</sup> Vortioxetine should not be used with monoamine oxidase inhibitors, linezolid (Zyvox), intravenous methylene blue, or other serotonergic drugs because of the risk of serotonin syndrome. Vortioxetine may increase the risk of bleeding events, particularly when taken with nonsteroidal anti-inflammatory drugs or other medications that affect coagulation. It also may cause hyponatremia, which is rare but can be severe. This is more likely to happen in older adults, persons taking diuretics, and those who are volume depleted. Vortioxetine is a U.S. Food and Drug Administration pregnancy category C drug.<sup>2</sup>

## TOLERABILITY

Vortioxetine is generally well tolerated. The dropout rate from side effects in the first year of

use is 6%. Vortioxetine is not associated with significant weight gain over at least one year of treatment.<sup>3</sup> Nausea is the most common side effect, occurring in up to 38% of patients, and is usually temporary and reported as mild to moderate. Headache occurs in up to 25% of patients. Other common side effects include dizziness, dry mouth, nasopharyngitis, and diarrhea; these generally occur in less than 10% of patients.<sup>1,3-9</sup> Sexual dysfunction rates with vortioxetine are similar to those with duloxetine (Cymbalta).<sup>8,9</sup> Lower doses of vortioxetine produced less sexual dysfunction than did higher doses of venlafaxine; the two medications have not been compared at pharmacologically equivalent doses.<sup>4</sup>

## EFFECTIVENESS

Similar to other antidepressants in this class, the antidepressant effect of vortioxetine begins after about two weeks of treatment, reaching full effect at four weeks or beyond. There is no significant difference in effectiveness between the typical starting dosages of 5 and 10 mg per day; however, a higher dosage of 20 mg per day is more effective than lower dosages. Vortioxetine has not been studied in patients with mild to moderate depression; in patients with moderate to severe depression, outcome data are mixed.

About 50% to 70% of patients will respond to treatment, defined as a 50% reduction in depression score (based on results of the Montgomery-Åsberg Depression Rating Scale and the 17- and 24-item Hamilton Depression Rating Scales).<sup>4,6,8</sup> Remission occurs in about 20% to 60% of patients,<sup>4,6,8</sup> and it is maintained in about 62% of patients at 52 weeks.<sup>3</sup> Vortioxetine may also prevent relapse at 24 weeks.<sup>1</sup> However, at least three studies have shown no benefit of vortioxetine over placebo.<sup>5,7,9</sup> Comparative data show no benefit of vortioxetine over other antidepressants, but these trials compared lower dosages of vortioxetine (10 mg per day or less) to maximal dosages of venlafaxine (225 mg per day) and duloxetine (60 mg per day).<sup>4,5,8,9</sup>

#### PRICE

A one-month supply of vortioxetine (5 mg or 10 mg per day) costs approximately \$254. In comparison, a one-month supply of duloxetine (60 mg per day) costs approximately \$35, and a one-month supply of venlafaxine (75 mg per day) costs approximately \$15. Fluoxetine and amitriptyline are each available for \$4 for a one-month supply.

#### SIMPLICITY

Vortioxetine is taken once daily without regard to meals. The starting dosage is 5 or 10 mg per day and can be titrated to a maximal dosage of 20 mg once daily. Although vortioxetine can be discontinued abruptly, it is recommended that higher dosages of 15 or 20 mg per day be reduced to 10 mg per day for one week before full discontinuation to avoid adverse reactions.<sup>2</sup>

#### Bottom Line

Current evidence does not support the routine use of vortioxetine in the treatment of depression. Family physicians most often encounter patients with mild to moderate depression, and vortioxetine has not been studied in this population. There is no clear

benefit of using vortioxetine over other more affordable options in its class. Its safety is similar to that of other antidepressants, although vortioxetine has not been studied for longer than one year.

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