

# An Advance in Treatment of Parkinson's Disease



By *Chuck Dinerstein, MD, MBA* — August 28, 2017



The red tulip - the symbol for Parkinson's Disease [1]

Parkinson's disease can be very visible; one need only think of Mohammed Ali or Michael J Fox. But in terms of commanding our medical and economic attention it seems to be more of an orphan disease. It affects approximately 1 million Americans, dwarfed heart disease that affects 28.4 million or diabetes affected 29 million. So this week's major advance in treating Parkinson's may have been overlooked in the media. The FDA has approved amantadine [1] in a new formulation for the dyskinesia in Parkinson's patients based on a Phase 3 study reported in [JAMA Neurology](#) [2]. The study was a randomized, double-blind, placebo controlled – it doesn't get much better, that demonstrated

- 37-46% reduction in reported symptoms of dyskinesia compared to 12-16% for controls
- 3.6 - 4 hour increase in symptom-free time compared to 0.8-2.1 hours in controls

Let's unpack some of what they found. Parkinson's Disease is a degenerative disease of the central nervous system that primarily affects motor nerves. It manifests itself with rigidity, shaking and a general slowing of movement. It is, in some ways being trapped in a body that doesn't respond well to commands and as a consequence can increase depression and anxiety in patients. It's' cause is unknown and involves the usual suspects, genetics and the environment. With no cure available, symptomatic relief is the only relief possible. Parkinson's is manifested on brain imaging by the death of cells in the midbrain [2] resulting in a deficiency of dopamine. For that reason, treatment involves supplying L-Dopa and when that begins to lose efficacy, adding dopamine agonists (drugs that act similarly to dopamine).

In a typical day, a Parkinson's patient may be symptom-free for eight hours, with an additional four hours when the symptoms are present but there is "good benefit." Amantadine in its new extended

release form increased the symptom-free time by 4 hours, 50%. That is a big deal from a functional point of view.

As with any medication, there are side effects. In this instance, the most common (seen in greater than 10% of patients and greater than in the placebo group) were hallucinations, dizziness, dry mouth, peripheral edema, constipation, falls, and orthostatic hypotension. 20% of patients stopped the medication because of these side effects indicating that the new therapy may not help all patients.

On line pricing for generic fast acting, amantadine runs between \$1-3.00 per day, pricing for the reformulated version has not been released. Here's hoping that we will see a fair price and not some of the recent profiteering that has brought media attention and headlines.

[1] Amantadine was initially approved as an anti-viral medication, and its use in nursing homes serendipitously uncovered its impact upon the dyskinesia of Parkinson's.

[2] More specifically the substantia nigra, an area involved in eye movement, motor function, and interestingly enough, learning and addiction.

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[1] <https://pixabay.com/en/red-tulip-light-sun-flower-color-2214221/>

[2] <http://jamanetwork.com/journals/jamaneurology/article-abstract/2630682>