

Putting A Patch On Parkinson's Disease

Mary Ellen Egan

A new drug delivered via a patch could challenge medicines from Lilly, Pzifer and GlaxoSmithKline.

Pharmaceuticals

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NEW YORK - Mornings were the worst part of the day for Michelle Lane. In June 2000, the 41-year-old mother of three was diagnosed with Parkinson's, a fatal, progressive disease that attacks the central nervous system. As the disease progressed, Lane lost the ability to button her shirts or brush her daughter's hair. Even more troubling were the mornings Lane would awaken paralyzed and have to wait up to an hour before her medication kicked in so she could get out of bed.



But a new drug has changed the way Lane approaches her day. The drug, called rotigotine, works by tricking certain receptor cells into producing dopamine, a neurotransmitter believed to be lacking in Parkinson's patients. This type of drug is called a dopamine agonist. The three most prescribed versions on the market are **Eli Lilly's** (nyse: [LLY](#) - news - people) Permax, **Pfizer's** (nyse: [PFE](#) - news - people) Mirapex (from its Pharmacia acquisition) and **GlaxoSmithKline's** (nyse: [GSK](#) - news - people) Requip. But rotigotine has a distinct advantage: It's the first dopamine agonist to

be delivered via a patch, thereby allowing patients to have a consistent dose of the drug in their systems at all times.

Over 1 million Americans suffer from Parkinson's disease (PD), and they spend over \$2 billion on medications each year, including \$400 million to \$500 million for dopamine agonists. Patients are diagnosed by four primary symptoms: tremor, rigidity, postural imbalance and the slowing or freezing of voluntary movement.

For over 30 years, levodopa, the chemical precursor of dopamine, has been the primary medication for PD patients. It is still the most efficacious drug, but long-term use can result in dyskinesia (jerky, involuntary movements) and levodopa can lose its beneficial effects over time. Since dopamine agonists have lesser side effects, they are currently the first line of defense against PD.

Two years after Lane was diagnosed, her doctor put her on Mirapex. Lane says she stayed on the drug for just three months because it made her "extremely sleepy." At that time, her doctor, Jayaraman Rao, director of the Parkinson's Disease and Movement Disorder Clinic at Louisiana State University Health Sciences Center, told Lane about a clinical trial for a new PD drug. In May 2002, Lane enrolled in the rotigotine trial.

The drug was developed by Aderis Pharmaceuticals, a privately held biotech based in Hopkinton, Mass., and Schwarz Pharma, the North American affiliate of Germany-based Schwarz Pharma AG. The two companies joined forces in August 1998 to finish the work on the agonist molecule that had begun in the late 1980s. Their goal was to have rotigotine delivered via a patch, since one of the biggest problems plaguing PD patients is keeping the right amount of medication in their systems throughout the day. Too much medication can cause dyskinesia, and too little can result in paralysis.

"Some patients set the alarm clock for 3:00 A.M. or so, and then take a pill so they can get out of bed in the morning. With the patch, patients can now sleep through the night," says Aderis Chief Executive Peter Savas.



Rotigotine comes in four patch sizes and dosages. Lane, whose clinical trial ended in November 2002, opted to stay on the medication and now wears two patches a day. "Mornings are now the best part of my day. I can wake up, clean the house, and get my kids off to school on my own again," she says.

Schwarz is currently compiling the data from three separate rotigotine trials--two on early stage patients and one on late-stage patients--and the company expects to file for U.S. Food and Drug Administration approval by this fall. If all goes well, the Parkinson's patch could be on the market by 2006.