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New clinical trial investigates APOKYN for treating debilitating morning akinesia in Parkinson's disease patients

LOUISVILLE, Ky.--(BUSINESS WIRE)--US WorldMeds today announced the launch of a new clinical trial investigating APOKYN® (apomorphine hydrochloride injection) as a rapid and reliable treatment for "morning akinesia" in Parkinson's disease. AM IMPAKT, short for *Apokyn for Motor IMProvement of Morning AKinesia Trial,* is a Phase IV, multi-center, open-label study that will enroll approximately 100 subjects at 12 study sites across the US.

Stuart H. Isaacson, M.D., Associate Professor at Florida International University Herbert Wertheim College of Medicine, Director of the Parkinson's Disease and Movement Disorders Center of Boca Raton and Research Director of the Marcus Neuroscience Institute at Boca Raton Regional Hospital, is the lead investigator on the study.

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"We are very excited to have commenced this important study," said Dr. Isaacson. "We hope to show that APOKYN will provide a valuable treatment option for Parkinson's disease patients with morning akinesia due to delayed onset of levodopa by rapidly and reliably restoring their motor function and enabling them to get on with their day. We plan to have initial results available in August."

Patients with morning akinesia can experience hand tremor, muscle stiffness, and difficulty in moving and walking in the morning because their first daily dose of oral levodopa fails to provide dependable relief. Oral levodopa is the most frequently used Parkinson's disease medication, and it typically provides robust dependable relief of symptoms when it is first started. However, after taking the medicine for many months or years, most Parkinson's patients begin to develop a fluctuating response to levodopa.

Fluctuating responses are divided into "ON" time, when the medication is working well and controlling Parkinson's symptoms, and "OFF" time when the medication fails or is delayed in working and Parkinson's disease symptoms are poorly controlled. Morning akinesia is one form of "OFF" episodes. Its symptoms include tremor, slowness, stiffness, freezing and falls which can significantly hinder the patients' ability to carry out their normal daily morning activities.

Because the effects of Parkinson's disease on the gastrointestinal (GI) tract may contribute to morning akinesia, a subset of study patients will have GI tests prior to, and after, APOKYN.

GI tract problems are a common underlying part of Parkinson's disease patients. This includes a condition known as gastroparesis, in which the stomach takes longer than normal to empty. A survey of Parkinson's disease patients found that 24% reported nausea and 45% reported bloating, both symptoms of gastroparesis.[1] Despite its frequency, gastroparesis in Parkinson's disease often goes unrecognized and, therefore, untreated. It is thought that gastroparesis contributes to poor unpredictable absorption of oral levodopa dosing resulting in "OFF" episodes and delayed-ON episodes such as morning akinesia.

"There are few therapeutic options for people with Parkinson's disease who suffer from morning akinesia and gastroparesis," said P. Breckinridge "Breck" Jones, CEO of US WorldMeds. "APOKYN, which has offered great benefit to patients experiencing OFF episodes, has shown initial promise in helping to alleviate symptoms associated with these conditions. US WorldMeds is committed to working with researchers and healthcare providers to advance the application and delivery of this medication."

APOKYN is a medication that provides levodopa-like effects. It is given as injection under the skin much like an insulin injection and so, unlike levodopa, its onset of action is quick and reliable because it does not depend on absorption in the GI tract. In

addition to measuring the benefits of APOKYN in treating morning akinesia, the potential benefits of APOKYN in improving gastroparesis will be explored in the AM IMPAKT study.

The primary aim of the study is to assess the time that it takes to turn “ON” with APOKYN when used in the morning upon awakening compared to time-to-ON with usual morning levodopa dosing. In a sub-group of study participants, the potential benefits of APOKYN on gastroparesis will be examined by measuring stomach emptying times. The findings from AM IMPAKT will improve our understanding of the benefits of APOKYN in treating morning “OFF” episodes and potentially provide a possible new treatment approach to improve GI function in PD.

APOKYN has been shown in previous clinical studies to provide rapid and reliable improvement in the motor symptoms of “OFF” episodes in advancing Parkinson’s disease patients.[2] Mean changes from baseline were seen at 20 minutes with some changes being seen as early as 10 minutes following injection.[3]

Study sites for AM IMPAKT are located in Bloomfield Hills, MI; Boca Raton, FL; Chicago, IL; Cincinnati, OH; Cleveland, OH; Commack, NY; Houston, TX; Los Angeles, CA; Reseda, CA; San Antonio, TX; Tulsa OK and Washington, DC. For more information on the study or to obtain contact information for participating centers, visit www.clinicaltrials.gov and search for “AM IMPAKT.” The study is registered as NCT01770145.

Apomorphine is marketed as APO-go in the UK and Europe, APOKYN in Japan and France, and Apomine in Australia. For more information about Apomorphine outside the United States, visit www.apo-go.com.

References:

1. Stocchi F et al. *Eur Neurol*. 2010;63(5):257-66.
2. Pfeiffer RF. *Lancet.* 2003;2:107-116.
3. Pfeiffer et al. *Parkinsonism Relat Disord*. 2007;13:93-100.

About US WorldMeds

US WorldMeds is a closely-held, Kentucky-based specialty pharmaceutical company. Its mission is to develop, license and commercialize unique and significant specialty pharmaceuticals that address unmet medical needs or overcome limitations of existing products.

US WorldMeds’ overriding mission is to continually strive to identify specialty products for niche patient groups and increase access to those treatments across the globe. The company has built a platform for success on two primary strengths: sound science and targeted commercialization.

Important Safety Information for APOKYN®(apomorphine hydrochloride injection)

You should not take APOKYN if you are allergic to APOKYN or its ingredients, notably the sulfite called metabisulfate. Sulfites can cause severe, life-threatening allergic reactions in some people, especially in people with asthma.

Do not take APOKYN if you are being treated with certain drugs called $5HT_3$ antagonists (including Anzemet®, Kytril®, Zofran®, Lotronex®, and Aloxi®) that are used for nausea and vomiting or irritable bowel syndrome. People taking this type of drug with apomorphine had severely low blood pressure and lost consciousness or “blacked out.”

APOKYN has not been studied in children.

Before taking APOKYN, make sure to tell your healthcare provider about all your medical conditions, including if you have dizziness, fainting spells, low blood pressure, asthma, liver problems, kidney problems, heart problems, a mental disorder called major psychotic disorder, are allergic to any medicines containing sulfites, have had a stroke or other brain problems, or drink alcohol.

Tell your doctor if you are pregnant or plan to become pregnant or if you are breast-feeding or planning to breast-feed. It is not known if APOKYN can harm your unborn baby, and it is not known if APOKYN passes into breast milk.

Also tell your doctors about all medicines that you take, including prescription and non-prescription medicines, vitamins, and herbal supplements. APOKYN may interact with other medicines to cause serious side effects.

APOKYN must be injected just under the skin and not into a vein. Patients and caregivers must receive detailed instructions in the preparation and injection of doses, with particular attention paid to the correct use of the dosing pen. Never reuse needles with your APOKYN Injections.

Your healthcare provider may prescribe a medicine called Tigan® to help prevent the severe nausea and vomiting that may occur when taking APOKYN. Some patients can stop taking Tigan after using APOKYN for some time. Some patients may need to continue taking Tigan to help prevent nausea and vomiting. Talk to your healthcare provider before you stop taking Tigan.

APOKYN may lower blood pressure and cause dizziness and fainting, especially when starting treatment or if the dose is increased. Alcohol, antihypertensives, and nitrates may increase this risk. Patients should not get up too fast from sitting or after lying down to minimize these problems.

If you experience shortness of breath, fast heartbeat, or chest pain while taking APOKYN, you should call your healthcare provider right away.

Some patients taking APOKYN may get sleepy during the day or fall asleep without warning doing everyday activities. Do not take medicines that make you sleepy while you are taking APOKYN. Until it is known how APOKYN affects your ability to stay alert, you should not drive a car or operate heavy machinery.

The changes that occur with PD and the effects of some PD medicines can increase the risk of falling. APOKYN can also increase this risk.

Some people with PD may get sudden, uncontrolled movements after treatment with some PD medicines. APOKYN can cause or worsen this effect.

APOKYN can cause or worsen psychotic-like behavior including hallucinations (seeing or hearing things that are not real), confusion, excessive suspicion, aggressive behavior, agitation, delusional beliefs (believing things that are not real), and disorganized thinking. Call your healthcare provider right away if you experience any of these symptoms.

Some people get depression while taking APOKYN. Call your healthcare provider right away if you get depression with APOKYN.

APOKYN can cause headaches. If these become severe or do not go away, call your healthcare provider.

Some patients may notice soreness, redness, bruising, or itching at the injection site. Changing the injection site with each injection and putting ice on the site before and after the injection may help lessen these effects.

Some people with PD have reported new or increased gambling urges, increased sexual urges, and other intense urges, while taking PD medicines, including APOKYN. If you experience new or increased urges, tell your healthcare provider.

The most common side effects seen in clinical studies with APOKYN were: yawning; sudden uncontrolled movements; nausea and/or vomiting; sleepiness; dizziness; runny nose; seeing and hearing things that are not real; swelling of hands, arms, legs, and feet; increased sweating; flushing; and unusually pale complexion.

Studies of people with Parkinson's disease show that they may be at an increased risk of developing melanoma, a form of skin cancer, when compared to people without Parkinson's disease. It is not known if this problem is associated with Parkinson's disease or the medicines used to treat Parkinson's disease. APOKYN is one of the medicines used to treat Parkinson's disease. Therefore, patients being treated with APOKYN should have periodic skin examinations.

To report SUSPECTED ADVERSE REACTIONS or product complaints, contact US WorldMeds at 1-877-727-6596 (877-7APOKYN). You may also report SUSPECTED ADVERSE REACTIONS to the FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Please see full Prescribing Information, including the Patient Information and the Instructions for Use for the dosing pen available at www.APOKYN.com.

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