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While not a non-motor symptom, Dystonia can be a relatively common occurrence in Parkinson disease. It is important to note that dystonia can be present without the diagnosis of Parkinson disease. Dystonia is the term used to describe prolonged, involuntary muscle contractions that cause pulling of the muscles into abnormal movements and posture. These contractions are sustained and repetitive, which lead to pain from lack of relaxation of the muscles. When the dopamine producing cells deteriorate as a result of Parkinson's, the communication between the brain also becomes impacted. The signals communicated between the brain and the muscles become irregular leading to opposing muscles contracting involuntary at the same time and causing dystonic pain. The body ignores the natural response to relax the tightened muscles and the pain is prolonged for the individual with Parkinson's. The contractions can be initiated with intentional movements, such as exercising or walking, but can happen without intentional movements, such as laying down. It is common to initially notice the symptoms of dystonia during exercise, which is known as kinesigenic foot dystonia.

Dystonia can occur in multiple body parts, but most commonly in the feet. When dystonia occurs in the foot, it is often described as toes curling into a claw-like position, inversion (ankle turning inwards), plantar flexion (moving foot upwards or downwards), toes pointing upwards, or painful cramping. However, the pain associated with dystonia is unique to each person, just as their Parkinson's is unique to them. The symptoms typically occur on the same side of the body as the other motor symptoms of Parkinson disease. As the disease naturally progresses, the development or increase in dystonia can happen. Additionally, non-motor symptoms (depression, anxiety, and fatigue) can increase the occurrence of dystonic pain. As a result of dystonia, an individual's quality of life and ability to complete daily living tasks can be negatively impacted.

Dystonia is most common for those with Young Onset Parkinson's (diagnosed under the age of 50) and can be the first symptom an individual may experience, which eventually leads to their diagnosis. For the majority of people with Parkinson's the painful symptoms of dystonia are usually due to medication (usually Levodopa) wearing off or losing effect. For example, dystonia commonly occurs in the morning after a long overnight period without medication. During periods of wearing off, the other motor symptoms may return in addition to the dystonia. The painful effects of dystonia may be resolved once the morning medications have been taken. If dystonia occurs during on-periods of medication, it may signify too much dopamine in the system and overstimulation in muscles.

It can be difficult for individuals with Parkinson disease to mention dystonic pain to their health care team

because they're often unsure if the pain is related to Parkinson's. It's important to share this information with your medical team to ensure the right treatments are prescribed to reduce the impact on your quality of life. It can also be helpful to track the periods of dystonia to share with your health care team to find the right treatments.

Since the painful effects of dystonia are primarily caused by fluctuations in dopamine levels in the brain from medications, the treatments for dystonia include adjusting levels, doses, or timing of medication to reverse the effects. The treatment options can include many trial and error processes to find the right solution for each unique case. When dystonic pain occurs in the early mornings resulting from longer periods of time without medication, the treatment may include controlled release (CR) versions of the medication to stabilize dopamine levels throughout the night. When the pain occurs throughout the day, the timing or dosing of medications may be changed to accommodate the periods of dystonia. The secondary treatment option available is the adjustment of medication routines to include additional dopamine agonists to increase the effectiveness and longevity of Levodopa medications. The other medications that can be added to the routine may include anticholinergic medications that target dystonia or muscle relaxant medications. One of the common treatments for dystonia is the injection of botulinum toxins (Botox) to paralyze the muscles, inhibit communication between nerves, stop contractions of muscles and reduce pain. The injections act as a strong muscle relaxant directly to the areas of the foot being affected. The use of botulinum toxins is a temporary solution, which requires follow up appointments every few weeks. The use of surgical interventions, such as deep brain stimulation (DBS) surgery may also be helpful in reducing pain from dystonia, when applicable.

Finally, individuals experiencing dystonia may utilize non-medical treatments to help with immediate pain, including massaging the foot, using bunion correctors to straighten toes, exercise, physical therapy or using a heated pad on affected areas. Dystonic pain can impact daily living, however the right combination of treatment options can ensure the pain is manageable for everyday!

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