



Pain in Parkinson's Disease

For most people with Parkinson's disease (PD), the most serious concern is with the motor system: stiffness, slowness of movement, impaired handwriting and co-ordination, poor mobility and balance. Descriptions of PD do not generally include the mention of pain. And yet, when carefully questioned, more than half of all people with Parkinson's disease say that they have experienced painful symptoms and various forms of physical discomfort. Most people experience aching, stiffness, numbness and tingling at some point in the course of the illness. For a few of them, pain and discomfort are so severe that they overshadow the other problems caused by the disease. This article will address these overlooked painful symptoms of PD, and describe an approach to diagnosing and treating the various pain syndromes that may occur.

Pain is described in textbooks as an unpleasant experience associated with physical injury or tissue damage. Pain can arise from anywhere in the body, of course. It goes without saying that people with Parkinson's are subject to all of the painful conditions — cardiac, gastroenterological, rheumatological, among others — that can affect people without PD. This discussion will focus on pain that is directly related to PD itself.

Pain syndromes and discomfort in Parkinson's usually arise from one of five causes: (1) a musculoskeletal problem related to poor posture, awkward mechanical function or physical wear and tear; (2) nerve or root pain, often related to neck or back arthritis; (3) pain from dystonia, the sustained twisting or posturing of a muscle group or body part; (4) discomfort due to extreme restlessness and (5) a rare pain syndrome known as "primary" or "central" pain, arising from the brain.

It takes diagnostic skill and clinical experience to determine the cause of pain in someone with PD. The most important diagnostic tool is the patient's history. Where is the pain? What does it feel like? Does it radiate? When does it occur during the day? Does it occur in relation to any particular activity or medication? Perhaps the most important task for people with Parkinson's who experience pain is to describe as accurately as they can whether their medications induce, aggravate or relieve their pain. To help your physician in diagnosing pain, refer to the questions listed on the back.

Musculoskeletal pain

Aching muscles and joints are especially common in PD. Rigidity, lack of spontaneous movement, abnormalities of posture and awkward mechanical stresses all contribute to musculoskeletal pain in PD. One of the most common musculoskeletal complaints is shoulder stiffness, sometimes called a frozen shoulder (this may in fact be the first sign of PD). Hip pain, back pain and

neck pain are all common painful complaints in PD. With prolonged immobility of a limb, band-like tendons, termed contractures, may occasionally develop, usually in the hands or feet; one example is the clenched fist contracture that may occur with prolonged flexion of a hand.

An accurate diagnosis of musculoskeletal pain is based on a careful history and a physical examination that takes into account posture, limb and trunk rigidity and gait. It can occasionally be challenging to distinguish between back pain due to PD and that caused by arthritis or scoliosis. Occasionally, further testing — including x-rays, bone scans, ultrasound and rheumatologic or orthopedic consultation — will be needed. The proper treatment of musculoskeletal pain in PD depends upon the cause of the pain. If the pain is the result of excessive immobility or rigidity, a physician may prescribe dopaminergic therapy, physical therapy and an exercise program. If the treatment is successful, patients should continue with an exercise program that strongly emphasizes range of motion, to prevent the development of further musculoskeletal problems.

Radicular and neuritic pain

Pain that occurs close to a nerve or nerve root is described as neuritic or radicular pain. The classic root-pain syndrome is sciatica, caused by compression or inflammation of the L5 lumbar root. Patients usually describe root pain as a sharp, lightning-like sensation that radiates towards the end of a limb. Of course, any nerve or root may be subject to injury or compression, and a careful neurological assessment is needed for the diagnosis. Electrodiagnostic studies and neuroimaging are occasionally required to confirm the location of the involved nerve or root, and to determine the cause of the problem. Radicular pain can usually be successfully treated with a mobility program and pain medication and rarely requires surgery.

Pain associated with dystonia

Dystonic spasms are among the most painful symptoms that a person with PD may experience. The pain arises from the severe, forceful, sustained twisting movements and postures that are called dystonia. This type of muscle spasm is quite different from the flowing, writhing movements described as dyskinesias, which are not painful. Dystonia in PD may affect the limbs, trunk, neck, face, tongue, jaw, swallowing muscles and vocal cords. A common form of dystonia in PD involves the feet and toes, which may curl painfully. Dystonia may also cause an arm to pull behind the back, or force the head forward towards the chest.

The most important step in evaluating painful dystonia is to

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establish its relationship to dopaminergic medication. Does the dystonia occur when the medication is at peak effect? Or does it occur as a “wearing-off” phenomenon, when the benefits of medication are waning? The answers to these questions will usually clarify the nature and timing of the dystonia, and determine its treatment. Most painful dystonia represents an “off” parkinsonian phenomenon, and occurs early in the morning or during wearing-off spells. In uncertain cases, the neurologist should observe the patient in the office over a period of several hours in order to appreciate the relationship of the dystonia to the medication-dose cycle.

In terms of treatment, early-morning dystonia is typically relieved by physical activity, or by the first dose of dopaminergic medication, whether it be levodopa (Sinemet®) or a dopamine agonist. When dystonia occurs as the medications wear off, the problem can be corrected by shortening the “off” period. In some patients, the dystonia is so severe that subcutaneous injections of apomorphine, with its onset of action in minutes, may be necessary. Individuals with intractable dystonia may benefit from deep brain stimulation, a neurosurgical procedure that involves implanting and activating electrodes in the brain.

A few patients experience dystonic spasms as a complication of their medications. When they take their levodopa, these patients experience dystonic facial grimacing or uncomfortable limb posturing. The standard treatment approach for these individuals is to reduce the amount of dopamine medication, sometimes by substituting a less potent agent, or adding a medication for dystonia, such as amantadine.

Akathisia

No discussion of physical discomfort in PD is complete without a mention of akathisia, or restlessness, a frequent and potentially disabling complaint. Some patients with parkinsonian akathisia are unable to sit still, lie in bed, drive a car, eat at a table or attend social gatherings. As a result of akathisia, patients may lose sleep or become socially isolated. In about half of the cases of parkinsonian akathisia, the symptom fluctuates with medications and may often be relieved by additional dopaminergic treatment.

Central pain syndromes

The most alarming pain syndrome in patients with PD is also one of the rarest: “central pain.” This affliction — which is presumed to be a direct consequence of the disease itself, not the result of dystonia or a musculoskeletal prob-

lem — is described by patients as bizarre unexplained sensations of stabbing, burning and scalding, often in unusual body distributions: the abdomen, chest, mouth, rectum or genitalia. The treatment of central pain in PD is challenging, and usually begins with dopaminergic agents. Conventional pain-killers, opiates, antidepressants and powerful drugs for psychosis, such as clozapine, may also be helpful treatments for central pain.

Depression and pain

It has long been known that chronic pain can induce depression, and depressed patients often experience pain. People who have PD are themselves at a higher-than-average risk for developing depression, which occurs in some 40 percent of patients at some point during the illness. It is therefore important that any assessment of pain in an individual with PD take into account the potential contributing role of depression, which may also require treatment.

Many patients with PD experience pain at some point during the illness. The complaint is often overlooked because PD is primarily a motor disorder. Yet, for a minority of patients, pain and discomfort can be so debilitating that they dominate the clinical picture. It is therefore important that individuals who experience pain discuss the problem with their neurologist. A careful history and examination — including, in some cases, additional diagnostic testing — can usually determine the cause of the pain. Depending on the category of painful complaint — musculoskeletal, root or nerve pain, dystonic muscle spasm, akathisia or central pain — it is usually possible for the physician to design an effective treatment plan.

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Questions
your doctor
will ask you
about pain

1. Where is your pain located?
2. What does your pain feel like?
3. Does the pain radiate anywhere?
4. When does the pain occur?
5. Do you have pain continuously, or only at certain times?
6. Does the pain occur in relation to any particular activity?
7. What relieves the pain?
8. What makes the pain worse?
9. Do your anti-Parkinson's medications relieve your pain?
10. Do you have arthritis?