

How Parkinson's could be read in the brain, decades before tremors show up

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Disturbed sleep, constipation and mood changes may be early disease markers but not diagnostic certainties

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For most people, Parkinson's disease begins with a shake of the hand. But for neurologists across the world, tremor is no longer seen as the starting point. Growing evidence shows Parkinson's may quietly take hold years, sometimes decades, earlier through symptoms that have nothing to do with movement.

Constipation, loss of smell, depression and disturbed sleep are now recognised as part of a long early phase of the neurodegenerative disease, often unfolding well before stiffness or slowness of movement appear. This period, known as the prodromal phase, reflects slow and progressive changes in the brain that remain largely invisible in routine clinical practice.

Earlier onset in Indians

"It's all because of an abnormal protein build-up in the brain," explains Dr Mohit Bhatt, director of neurosciences at Kokilaben Dhirubhai Ambani Hospital, Mumbai. "These early symptoms occur because alpha-synuclein (neuronal protein that is critical to synaptic functions and is read as a Parkinson's marker) first accumulates in brain regions that control sleep and smell, and in gut neurons, before spreading to areas responsible for classic Parkinson's symptoms such as tremor, slowness, rigidity and postural changes."

Parkinson's has seen a 21% increase in prevalence over the past 20 years in India. "The disease occurs here at least 10 years earlier than the world, with around 7.5 lakh estimated patients," points out Dr Elavarasi A, an associate professor of neurology at AIIMS Delhi. She says patients can experience non-motor symptoms as early as 15 to 20 years before motor symptoms begin. A 2025 study from Egypt found prodromal constipation in 22% Parkinson's cases before mo-

LOOKING BEYOND MOVEMENT

A range of physiological and mental health issues are often the earliest signs. Specific symptomatic treatment could provide relief

Loss of smell: It's often the earliest non-motor symptom, sometimes appearing decades earlier. Olfactory training and modifying diets with stronger flavours might help

Sleep and REM: REM sleep behaviour disorder (RBD), where people physically act out dreams, often shouting, talking, kicking or punching during sleep. RBD drugs help

Fatigue and mental health: Feeling tired, concentration issues. Anxiety, depression, hallucinations. Counselling and drugs may work

Low blood pressure: Sudden drop in blood pressure after standing up. Postural change, exercise can help

Change in cognition: Attention deficit, memory loss, trouble finding right words, feeling overwhelmed. Cognitive exercises and medications can help

Note: No routine test can confirm the disease at this stage. And only some people with these symptoms later develop Parkinson's

tor onset. And in Odisha, another 2025 study reported gastrointestinal (GI) issues (including 70% constipation) in 100%, depression in 98%, anxiety in 95%, sleep issues in 78%, and anosmia (loss of smell) in 85% of study participants, while 45% had pre-diagnostic non-motor symptoms like constipation years earlier.

One of the most discussed early markers is REM sleep behaviour disorder (RBD). Rapid eye movement (REM) is a sleep phase that usually occurs in the early hours. In RBD, people physically act out their dreams, sometimes shouting, kicking or punching in sleep. "However, motor symptoms remain es-

Bladder and bowels: Frequent urination or leakage. Constipation, other stomach issues. Symptoms can be managed with urinary medicines and laxatives



What happens in the brain

Build-up of alpha-synuclein, an abnormal protein. It first affects:

- Brain areas controlling sleep and smell
- Nerves in the gut
- Later spreads to movement-control areas



What patients should know

- Non-motor symptoms deserve attention, not panic
- Parkinson's is slow-progressing, diagnosis must be done by specialists
- Though treatment doesn't reverse disease, it controls symptoms, improves mobility and independence, and enhances quality of life



Not all signs lead to disease

While international research has expanded understanding of the non-motor symptoms, Indian neurologists are careful not to label patients prematurely as the diagnosis itself can cause great psychological distress. Besides, non-motor symptoms are widespread in the general population and are usually innocuous, notes Dr Bhatt. "That's what makes early diagnosis extremely difficult. Even the tremor itself must be distinguished from more common and less disabling conditions such as essential tremor," he says, adding that although experimental biomarkers, includ-

ing alpha-synuclein seed assays using saliva or skin biopsy, are being studied, there is currently no routine test to diagnose Parkinson's in its early, non-motor phase.

Besides, doctors say identifying Parkinson's years earlier does not change current therapy outcomes. There's no treatment available today that can prevent or slow disease progression at this stage. "That's why widespread early screening is not useful at present," says Dr Bhatt, adding that once Parkinson's becomes clinically evident, available treatments are effective and many patients do well. Early identification will matter only when reliable biomarkers and disease-modifying therapies are developed.

Can be controlled, not reversed

Today's treatment protocols focus on symptom control rather than cure. Medicines and advanced therapies can markedly improve tremors, stiffness and mobility, helping patients remain independent for longer. But they do not reverse the underlying disease process. Starting treatment early improves quality of life, not the pace of neurodegeneration.

Dr Asha Kishore, neurologist and director of Parkinson and Movement Disorders Centre, Aster Medcity, Kochi, says non-motor symptoms may not appear in any predictable order. "And only a proportion of people with RBD or reduced sense of smell go on to develop Parkinson's, often after many years. Non-motor symptoms occurring together may raise suspicion, but without motor symptoms, Parkinson's cannot be diagnosed."

She adds that since there is currently no treatment that can stop disease progression, identifying non-motor symptoms is mainly useful for monitoring patients over time and treating individual symptoms. Researchers have flagged the possibility of a higher genetic risk among Indians, calling for large, community-based studies to better understand risk factors specific to India.

For doctors, the takeaway is clear. Non-motor symptoms deserve attention and treatment, but they should not trigger panic. Parkinson's disease progresses slowly, is treatable, and requires careful, specialist-led diagnosis. Awareness, neurologists say, should empower patients, not alarm them.