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Diagnosis of Parkinson's Disease



What is MDS-PD criteria?

MDS-PD criteria involves both motor and non-motor manifestations. The most important and essential criterion is parkinsonism which consists of bradykinesia with either a rest tremor or rigidity present.

To have a diagnosis of **Parkinson's Disease** that has been established through clinical evidence, it needs:

1. Lack of strict exclusion criteria
2. A minimum of two supportive criteria
3. Absence of red flags



What is MDS-PD criteria?

To have a **Clinical assessment suggesting Parkinson's disease**, it needs:

1. Lack of definitive exclusion criteria
2. The presence of warning signs is balanced out by supportive factors. (Maximum number of red flags is two):
 - If there is one indication of an issue, there needs to be at least one confirming factor.
 - In the event that two red flags are present there, then there should be two supportive criteria.



How to Diagnose of Parkinsonian disease?

Bradykinesia, which is the **delayed start of voluntary movement**, accompanied by at least one of the following:

- Stiffness in the muscles.
- Tremor at rest.
- Instability in posture

What are the red flags about Parkinson's disease?

Swift advancement of walking problems necessitating frequent wheelchair usage within **5 years** of symptoms appearing.



What are the red flags about Parkinson's disease?


1. Rapid deterioration of walking and movement disorder requiring frequent use of a wheelchair within 5 years of onset of diagnosis.
2. Complete absence of development of movement signs or symptoms for 5 years or more unless this stabilization is related to treatment.
3. Early existence of dysfunction within the first 5 years of disease onset, with severe dysphonia, dysarthria (mostly incomprehensible speech), extreme difficulty swallowing (requiring soft food, NG tube, or gastrostomy feeding)

What are the red flags about Parkinson's disease?

4. **Dysfunction in breathing while inhaling:** Breathing noise during inhaling or frequent deep breaths.
5. Intense autonomic dysfunction in the **first five years** of illness. This includes:
 - **Orthostatic hypotension** occurs when there is a sudden decrease in blood pressure of at least **30 mm Hg systolic or 15 mm Hg diastolic** upon standing. within 3 minutes of standing.



What are the red flags about Parkinson's disease?

- Severe urinary retention or urinary incontinence in the first 5 years of the disease (except stress urinary incontinence in women). In men, urinary retention must not be due to prostate disease, and must be associated with erectile dysfunction.
6. **Repeated falls** (more than once per year) within a time frame of 3 years from the disease onset.
 7. **The existence of exaggerated anterocollis** (which is dystonic in nature) or contractions of the hands or feet.
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What are the red flags about Parkinson's disease?

8. Lack of typical non-motor disease symptoms, such as Sleep dysfunction, observed after five years of illness, including rapid eye movement sleep behavior disorder, and insomnia related to maintaining sleep) or autonomic dysfunction (symptomatic orthostasis, daytime urinary urgency) or Psychiatric disorders (anxiety, or hallucinations) .
9. Weakness in one limb and hyperactive reflexes.
10. Symmetric bradykinesia in the limbs.

What are the methods of x-ray diagnosis?

Imaging for PD include:

- Single-photon emission computed tomography (SPECT) scan of the dopamine transporter.
- Dopamine transporter scan (DaT-scan).
- Magnetic resonance imaging of brain (MRI brain).



Sources and References:

- MDS clinical diagnostic criteria for Parkinson's disease. *Movement Disorders*, 30(12), 1591–1601.
- Diagnostic test accuracy of the Montreal Cognitive Assessment (MoCA) for cognitive impairment in Parkinson's disease: a systematic review and meta-analysis. In: University of York Centre for Reviews and Dissemination (UK). 2015. Available from:

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