Treatment of Parkinson’s Disease & Other Parkinsonian Syndromes

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• None relevant to this talk

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Outline

• Diagnostic criteria
• Treatment of motor symptoms of PD
• Treatment of non-motor symptoms of PD
• Early versus advanced disease
• Management of complications
• Management considerations in atypical parkinsonism
• Challenges of management in Africa
Review of the diagnostic criteria
Diagnosis hinges on recognition of parkinsonism

**UK PD BB CRITERIA**

**Step 1: Diagnosis of Parkinsonian Syndrome**
- Bradykinesia (slowness of initiation of voluntary movement with progressive reduction in speed and amplitude of repetitive actions)
- And at least one of the following:
  - Muscular rigidity
  - 4–6Hz resting tremor
  - Postural instability not caused by primary visual, vestibular, cerebellar, or proprioceptive dysfunction

**MDS DIAGNOSTIC CRITERIA**

- **I. Criteria for Parkinsonism**
- The prerequisite to apply the MDS-PD criteria is the diagnosis of parkinsonism, which is based on 3 cardinal motor manifestations.

  Parkinsonism is defined as bradykinesia, in combination with either rest tremor, rigidity, or both. These features must be clearly demonstrable and not attributable to confounding factor

  - Clinically Established PD OR
  - Clinically Probable PD
Diagnosis hinges on recognition of parkinsonism

**UK PD BB CRITERIA**

**Step 2: Exclusion Criteria for Parkinson Disease**

- History of repeated strokes with stepwise progression of parkinsonian features
- History of repeated head injury
- History of definite encephalitis
- Oculogyric crises
- Neuroleptic treatment at onset of symptoms
- More than one affected relative
- Sustained remission
- Strictly unilateral features after 3 years
- Supranuclear gaze palsy
- Cerebellar signs
- Early severe autonomic involvement
- Early severe dementia with disturbances of memory, language, and praxis
- Babinski sign
- Presence of a cerebral tumor or communicating hydrocephalus on CT scan
- Negative response to large doses of levodopa (if malabsorption excluded)
- MPTP exposure

**MDS DIAGNOSTIC CRITERIA**

- **Supportive criteria**

  Clear and dramatic beneficial response to dopaminergic therapy.

  Presence of levodopa-induced dyskinesia

  Rest tremor of a limb, documented on clinical examination (*in past, or on current examination*)

  The presence of either olfactory loss or cardiac sympathetic denervation on MIBG scintigraphy
Diagnosis hinges on recognition of parkinsonism

UK PD BB CRITERIA

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MDS Clinical Diagnostic Criteria Red Flags ...

1. Rapid progression of gait impairment requiring regular use of wheelchair within 5 y of onset

2. A complete absence of progression of motor symptoms or signs over 5 or more y unless stability is related to treatment

3. Early bulbar dysfunction: severe dysphonia or dysarthria (speech unintelligible most of the time) or severe dysphagia (requiring soft food, NG tube, or gastrostomy feeding) within first 5 y

4. Inspiratory respiratory dysfunction: either diurnal or nocturnal inspiratory stridor or frequent inspiratory sighs

5. Severe autonomic failure in the first 5 y of disease.

6. Recurrent (>1/y) falls because of impaired balance within 3 y of onset

7. Disproportionate anterocollis (dystonic) or contractures of hand or feet within the first 10 y

8. Absence of any of the common nonmotor features of disease despite 5 y disease duration.

9. Otherwise-unexplained pyramidal tract signs, defined as pyramidal weakness or clear pathologic hyperreflexia (excluding mild reflex asymmetry and isolated extensor plantar response)

10. Bilateral symmetric parkinsonism throughout the disease course
Diagnosis hinges on recognition of *parkinsonism* . . . . & exclusion

**UK PD BB CRITERIA**

**Step 3: Supportive Criteria for PD**

- Three or more required for diagnosis of definite PD
  - Unilateral onset –
  - Resting tremor –
  - Progressive disorder
  - Persistent asymmetry –

- Excellent response (70–100%) to levodopa
- Severe levodopa-induced chorea
- Levodopa response > 5 years
- Clinical course of 10 years or more

**MDS DIAGNOSTIC CRITERIA**

**• Absolute Exclusion Criteria**

- Unequivocal cerebellar abnormalities on examination
- Downward vertical supranuclear gaze palsy/slowing of downward vertical saccades
- Diagnosis of probable bvFTD or PPA according to consensus criteria within first 5 y of the disease
- Parkinsonian features restricted to the lower limbs for more than 3 y
Goals of treatment of PD
Goals of pharmacologic treatment of PD

• Improve motor symptoms & improve disability

• Treat NMS

• Improve HRQoL

• Treat motor complications
Available Therapies For Rx Of Motor Symptoms

- Levodopa
- Levodopa plus COMT-i
- Dopamine agonists
- MAO-Bi
- NMDA receptor antagonist
- Anticholinergic
International Parkinson and Movement Disorder Society
Evidence-Based Medicine Review: Update on Treatments
for the Motor Symptoms of Parkinson’s Disease

Susan H. Fox, MRCP, PhD,1,2* Regina Katzenschlager, MD,3 Shen-Yang Lim, MD, FRACP,4 Brandon Barton, MD, MS,5,6
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on behalf of the Movement Disorder Society Evidence-Based Medicine Committee

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Conclusions from the EBM review ....

- To date, no intervention with efficacy of preventing or slowing PD disease progression.
- There are several options for monotherapy in early PD (levodopa and all DAs significantly improve motor symptoms)
- Non-pharmacologic interventions (gait & balance)
- Enhancing levodopa duration of action using COMT and/or MAO-B inhibition remains an effective approach for reducing motor fluctuations
Treatment of NMS
Evaluation

- **History (clinician review)**
  - **MDS non-motor rating scales**
    - **Non-Motor Symptoms Questionnaire (NMSQ)**
    - **Non-Motor Symptoms Scale (NMSS)**
The Movement Disorder Society Evidence-Based Medicine Review Update: Treatments for the Non-Motor Symptoms of Parkinson’s Disease

Klaus Seppi, MD,1,4 Daniel Weintraub, MD,2 Miguel Coelho, MD,3 Santiago Perez-Lloret, MD, PhD,4 Susan H. Fox, MRCP (UK), PhD,5 Regina Katzschlager, MD,6 Eva-Maria Hametner, MD,1 Werner Poewe, MD,1 Olivier Rascol, MD, PhD,3 Christopher G. Goetz, MD,7 and Cristina Sampaio, MD, PhD8

Update on Treatments for Nonmotor Symptoms of Parkinson’s Disease—An Evidence-Based Medicine Review

Klaus Seppi, MD,1,8 K. Ray Chaudhuri, MD,2 Miguel Coelho, MD,3 Susan H. Fox, MRCP (UK), PhD,4 Regina Katzschlager, MD,5 Santiago Perez Lloret, MD,6 Daniel Weintraub, MD,7,8 Cristina Sampaio, MD, PhD,9,10

and the collaborators of the Parkinson’s Disease Update on Non-Motor Symptoms Study Group on behalf of the Movement Disorders Society Evidence-Based Medicine Committee
Fig. 1. Multidisciplinary approach to nonmotor symptoms in Parkinson disease: potential team members and specialists.
Management considerations in atypical parkinsonisms

- Lack (or loss/transient nature) of levodopa responsiveness
- Autonomic dysfunction – measures for postural hypotension, supine hypertension, management of bladder issues
- Postural abnormalities & painful dystonias (BoNT)
- Fall prevention
- Tracheostomy
Challenges of PD Management in Africa

- Lack of awareness
- Delayed diagnosis, delayed access to treatment & care
- Lack of caregiver support
- Lack of financial support

Adapted from Six Action Steps to Address Global Disparities in Parkinson Disease: A World Health Organization Priority. JAMA Neurol. 2022;79(9):929-936
Take home messages

• Diagnosis is key! The “spot” diagnosis is a syndrome - parkinsonism NOT PD

• Periodic reviews of the diagnosis is (sometimes) required

• Treatment is lifelong, symptomatic, pays attention to NMS as well as motor symptoms

• Interdisciplinary management is key
Resources/References


Resources/References

• Katz M. Palliative Care and Movement Disorders. Continuum (Minneap Minn). 2022;28(5):1520-1529. doi:10.1212/CON.0000000000001162

