

# Managing the Symptoms of Parkinson's Disease

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IMPROVING HEALTH

# PARKINSON'S DISEASE

- ❖ **Adult onset, progressive, neurodegenerative disorder**
  - ❖ **Average age at onset 70, incidence increases drastically over age 60**
- ❖ **Degenerative loss of dopaminergic neurons in the brain**
- ❖ **First described by James Parkinson over 200 years ago (Shaking Palsy)**

# **PARKINSON'S DISEASE:** ***DIAGNOSIS***

- ❖ **Hallmark symptoms**
  - ❖ **Tremor, rigidity, bradykinesia**
- ❖ **No definitive diagnostic test (DAT scan)**
- ❖ **Diagnosis based on history, clinical exam**
- ❖ **Response to dopaminergic therapy**

# **PARKINSON'S DISEASE:**

## ***Earliest SYMPTOMS***

- ❖ **REM sleep behavior disorder**
- ❖ **Constipation**
- ❖ **Olfactory (smelling) dysfunction**

# Hallmark Symptoms

## ❖ Tremor

- ❖ Resting tremor, unilateral, presenting symptom in 70%-80% of patients, will affect 80%-100% of patients with PD throughout disease progression
- ❖ Not noticed when hand is engaging in a purposeful activity
- ❖ “Pill-rolling”, happens at the finger joints
- ❖ Most severe at rest, less severe when hand is in use
- ❖ Often feel internal tremors, even when external tremor is not present
- ❖ High emotions exacerbate tremor

# Hallmark Symptoms

## ❖ Bradykinesia

- ❖ **Generalized slowing of movements, reduced amplitude of movements**
- ❖ **May be described as weakness, incoordination, tiredness**
- ❖ **Present in 80% of patients at onset of disease**
- ❖ **Responsible for freezing episodes**
- ❖ **Reduced dexterity in upper extremities**
- ❖ **Shortened (shuffling) steps in lower extremities, freezing**
- ❖ **Often starts on same side as tremor**

# Hallmark Symptoms

## ❖ Rigidity

- ❖ Increased resistance to passive movements in a joint
- ❖ Causes stiffness, at times pain
- ❖ Reduced arm swing with ambulation
- ❖ Cogwheel rigidity
- ❖ Occurs in 75%-90% of patients with PD

# Hallmark Symptoms

## ❖ Postural instability

- ❖ Not a cardinal feature, but important part of diagnosis
- ❖ Reduced ability to prevent falling
- ❖ Impairment of reflexes responsible for holding posture
- ❖ Appears later in course of PD
- ❖ Least responsive to levodopa of all symptoms
- ❖ Major contributor to disability in PD



# Motor Features & Symptoms

- ❖ Reduced facial expressions
- ❖ Reduced blink rate
- ❖ Speech impairment (low voice)
- ❖ Difficulty swallowing/drooling
- ❖ Blurred vision
- ❖ Small handwriting
- ❖ Dystonia (abnormal muscle contraction)
- ❖ Stooped posture
- ❖ Difficulty turning over
- ❖ Shuffling, short steps
- ❖ Freezing
- ❖ **MOST MOTOR FEATURES ARE DUE TO A HALLMARK SYMPTOM**

# Motor Symptom Management:

## *Dopaminergic Medication*

### ❖ Carbidopa/levodopa

- ❖ Gold standard treatment for motor symptoms of PD
- ❖ Can improve tremor, rigidity, bradykinesia
- ❖ Most motor symptoms are highly responsive to carbidopa/levodopa
- ❖ If initially ineffective, may need dose escalation, however, may need to consider alternate diagnosis
- ❖ May need to adjust dosing and timing through course of disease
  - ❖ Remember, PD is progressive!

# Motor Symptom Management:

## *Dopaminergic Medications*

### ❖ Carbidopa/levodopa

- ❖ **Ways to manage motor fluctuations**
  - ❖ Dietary changes
  - ❖ Change timing interval of carbidopa/levodopa
  - ❖ Change dose of carbidopa/levodopa
  - ❖ Change dose and timing of carbidopa/levodopa
  - ❖ Addition of alternate dopaminergic medications

### ❖ Ropinirole/Pramipexole

- ❖ **Potentiates effect of levodopa**
- ❖ **Work with dopamine that is being produced, prevents breakdown**
- ❖ **Side effects include compulsive behaviors**
- ❖ **High doses increase risk of hallucinations**
- ❖ **May cause increased dyskinesias**

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# Nonmotor Features & Symptoms

- ❖ **Cognitive dysfunction/dementia**
- ❖ **Psychotic symptoms (hallucinations/delusions)**
- ❖ **Mood disorders (apathy)**
- ❖ **Sleep disturbance/fatigue**
- ❖ **Autonomic dysfunction (orthostatic hypotension)**
- ❖ **Olfactory dysfunction**
- ❖ **GI dysfunction**
- ❖ **Pain and sensory disturbances**
- ❖ **Skin findings**

# Management of Nonmotor Symptoms

## ❖ Sleep disorders/fatigue

- ❖ REM sleep behavior disorder
- ❖ Insomnia
- ❖ Obstructive sleep apnea
- ❖ Restless legs

## ❖ Cognitive dysfunction/dementia

- ❖ Aricept/Namenda
- ❖ Exercise
- ❖ Social interaction
- ❖ Mental stimulation
- ❖ Caregiver fatigue

# Management of Nonmotor Symptoms

## ❖ Depression/Anxiety/Apathy

- ❖ Medication approaches (SSRI, SNRI)
- ❖ Therapy/Counseling
- ❖ Exercise
- ❖ Anxiety may be related to wearing off of levodopa

## ❖ Hallucinations/Delusions

- ❖ Rule out possible causes (infection, vitamin deficiencies)
- ❖ Review/adjust dopaminergic medications
- ❖ Medications (antipsychotics)
- ❖ Often reason caregivers no longer able to care for loved ones at home

# Management of Nonmotor Symptoms

## ❖ Autonomic dysfunction

- ❖ Orthostatic hypotension
- ❖ Urinary dysfunction (frequency, urgency, urge incontinence)
- ❖ Sexual dysfunction
- ❖ Constipation
- ❖ Swallowing difficulties
- ❖ Sweating

## ❖ Pain and Sensory dysfunction

- ❖ Neuropathic pain
- ❖ Dystonia
- ❖ Skin findings
  - ❖ Higher risk to develop Melanoma

# Questions?

# THANK YOU!

**Follow-up questions can be addressed to:**

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