Parkinson’s Disease: Understanding & Helping to Improve Care

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FREE WEBINAR
October 2, 2019
12:00 - 1:00 pm
Type your questions during the webinar

Webinar Sponsors

My Disclosures

Research Funding:
• NIH
• Biogen
• MJ Fox Foundation
Objectives

Participants will be able to:
- Understand prodromal Parkinson
- Explain a symptomatic medication treatment strategy
- Consider complementary therapies
- Discuss role of deep brain stimulation for PD
- Improve PD care

Prodromal PD Research Criteria

RISK MARKERS
- Male gender
- Pesticide/solvent exposure
- Lack of caffeine
- Nonsmoker
- First degree relative &/or gene mutation
- Diabetes mellitus
- Physical inactivity
- Low serum uric acid

PRODROMAL MARKERS
- REM Behavior Disorder (RBD)
- Abnormal DaTSCAN
- Subtle clinical features
- Loss of olfaction
- Constipation
- Daytime somnolence
- Orthostatic hypotension
- Erectile dysfunction
- Urinary dysfunction
- Depression
- Cognitive changes

Heinzel et al. Mov Dis 2019 doi.org/10.1002/mds.27802
Parkinson’s Disease Diagnosis

Supportive Features
- Clinical response to levodopa
- Loss of olfaction

Absence of
- Cerebellar signs
- Supranuclear palsy
- Present or recent use of dopamine blocking or depleting medication
- Cortical features - astereognosis, apraxia
- Normal dopamine scan (DaTSCAN)

Red Flags
- Rapid progression
- Early falls
- Early prominent autonomic failure
- Symmetric parkinsonism
- Absence of RBD, loss of smell, constipation, anxiety, depression

Reich and Savitt 2019 doi.org/10.1016/j.mcna.2018.10.014

Normal Abnormal Abnormal
Dopamine scan (DaTSCAN)

Rest Tremor
Rigidity

Akinesia/Bradykinesia
Postural Changes

15% of PD has a genetic cause
85% is environmental +/- genetic

Some genetic mutations cause PD
Other genetic mutations are risk factors, e.g.,
• Glucocerebrosidase (GBA) and LRRK2
• 70% of those with a LRRK2 mutation do not get PD.

PD GENERation study will determine if an individual has a genetic mutation to aid in recruitment for treatment studies focused on pathways related to that gene

23andME & Univ of Rochester (New York state)– study of 400 people w/ LRRK2 gene mutation (350 w/o PD and 50 w/ PD)
Natural History of Parkinson’s disease

Onset of disease
Symptoms first appear
Treatment begins
Motor Complications (dyskinesias/fluctuations) begin
Falls, swallowing, bladder, cognitive problems, etc.
Walker, cane, wheelchair for balance

Neuroprotective Rx Research
Symptomatic Medication Rx
DBS surgery

-5 yrs 0 .5 - 1 1-1.5 4-10 8-15 12-20

Does Prodromal RBD Predict the Course & Features of PD?

Prodromal PD 10-20 yrs before diagnosis
Diagnosis/mild PD 0-3 years after dx
Moderate/Severe PD 3-15 years after dx

Dream enactment in REM sleep behavior disorder (RBD)

Frozen gait in a person with PD and RBD
Severity & Course of Disease

Address More than Motor Features of PD:

**Clinical Review:**
Review medications, response to Rx and complications, Dx

**Safety Review:**
Falls, injury/falls prevention, driving

**Autonomic dysfunction:**
Blood pressure issues:
Constipation:
Sweating
Heartburn or/and Swallowing difficulty:
Drooling

**Nonpharmacological Rx:**
Physical/Speech/Occupational Therapy

**Research**

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**Neurocognitive:**
Cognitive changes, Hallucinations/Illusions

**Mood:**
Depression
Anxiety
Apathy
Impulse control disorder/compulsive behaviors

**Sleep:**
Insomnia
RBD
Snoring
RLS
Sleep study/consult

**Other:**
Skin: Cancer   Seborrhea
Vision
Other

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Visospatial Impairment & Daytime Hallucinations in 18 Months

Most likely Diagnosis?
A. Lewy body dementia
B. Alzheimer disease
C. Parkinson’s disease
D. Multiple system atrophy
E. Progressive supranuclear palsy

http://dx.doi.org/10.5664/jcsm.4614
To “fight” Parkinson’s is an old metaphor that doesn’t fit our understanding of PD
Aiding or Training; Not Fighting Your Body


Levodopa: Improves Quality of Life

Levodopa: the “gold standard” for symptomatic improvement does not affect rate of progression of PD

In 2011, PWP had 5 more years of function till disability vs. 1967

Disease progression still occurs and disability develops.

The Goal is to stop or slow the rate of progression
Symptomatic Motor Treatments:
Dopamine & Cookie Analogy

1. The brain makes dopamine (cookies) from raw ingredients: lots of effort

2. Raw dough represents levodopa: it’s faster to make dopamine than from scratch
   Levodopa → bake for 9-11 minutes → Dopamine

3. Premade cookies represent dopamine agonists – they are fast but have greater risk of side effects, e.g., hallucinations, leg swelling, impulse control disorders like gambling, etc.

Nausea Management:
Carbidopa & Other Approaches

87 year old man with PD for one year who has nausea after taking morning dose of carbidopa/levodopa (Sinemet)

Medication regimen:
   Carbidopa/levodopa (Sinemet) 25/100 tabs: 1.5 tabs by mouth 3 times/day
   14 other non-PD medications

Background: carbidopa added to levodopa (=sinemet) to reduce nausea

Actions:
   Extra dose of carbidopa (Lodosyn) 25mg was given 30 minutes prior to the first carbidopa/levodopa dose of the day; nausea improved
   Some other medications were moved to later in the day

* Take home: extra carbidopa can improve nausea caused by levodopa.
Medication Treatments

Which are Side Effects of Dopamine Agonists?

A. Impulse control disorders  
B. Leg swelling  
C. Sleepiness  
D. All of the above