Non-Motor Symptoms in Parkinson's Disease

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Disclosures

- No conflicts of interest
- Most of the medications discussed are off-label

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- Involve non-dopaminergic systems
  - Acetylcholine, serotonin, and norepinephrine
  - Olfactory, cerebral cortex, spinal cord, peripheral autonomic nervous system
- Frequently unrecognized and untreated
- Major determinant in quality of life
- May develop at any stage, even before any motor symptoms

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Neuropsychologic features
- Dementia
- Psychosis
- Depression
- Anxiety Syndromes
- Dopamine Dysregulation Syndrome
- Impulse Control Disorders

Sleep disorders
- Insomnia
- Restless Leg Syndrome (RLS)
- REM sleep behavior disorder (RBD)
- Excessive daytime sleepiness

Autonomic dysfunction
- Drooling
- Constipation
- Bladder Dysfunction
- Orthostatic Hypotension
- Sexual Dysfunction

Sensory
- Anosmia
- Pain
- Parasthesias

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Neuropsychologic Features

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Dementia in PD

Cognitive dysfunction is common and ranges from mild cognitive impairment (10-40%) to severe dementia
- Increases with age of onset, patient age, duration, severity
- Severe dementia is a major cause of disability and mortality

Early executive dysfunction and visual spatial impairment

Neuropsychiatric/behavioral symptoms
- Visual hallucinations, delusions

Management
- Acetylcholinesterase inhibitors
    - Donepezil, galantamine, rivastigmine

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Psychosis in PD

Visual hallucinations and delusions are frequent, particularly in advanced stages

May be side effects of antiparkinsonian medications

Risk factor for nursing home placement and mortality

Management
- Evaluate for precipitating factors
- Consider changing or decreasing antiparkinsonian or other medications
- Pimavanserin
- Quetiapine
- Clozapine
  - May have positive side effect of reducing tremor

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Depression in PD

Affects 40-50% of patients

Often goes unrecognized and undiagnosed/underdiagnosed
- Symptoms assumed to be part of PD
- Increased motor disability, caregiver distress, decreased quality of life

Generally mild to moderate in severity

Management
- May improve with antiparkinsonian meds
- Cognitive behavioral therapy, medications, or both
  - SSRIs most widely used
  - TCAs – sedation, confusion, OH

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Anxiety Syndromes in PD

Reported in 25-50% of PD patients

Generalized anxiety disorder, panic disorder, social phobia are most common

Often occurs with depression

Management is similar to depression

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Dopamine Dysregulation Syndrome

Inappropriate intake of dopamine replacement therapy in excess of that required to control motor symptoms

- Addictive-type behaviors
- Resist dose reductions

Management

- Immediate gradual reduction of DRT
- Hospitalization occasionally required

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Impulse Control Disorders

Loss of voluntary control over impulses and drives that result in repetitive, self-destructive behavior

Most commonly caused by treatment with dopamine agonists

Compulsive behaviors can be detrimental
- Compulsive eating, hypersexuality, compulsive shopping, pathologic gambling

Management
- Decrease dose/discontinue dopamine agonist
- Rarely requires decrease in dose of levodopa

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Sleep Disorders

- REM Sleep Behavior Disorder
- Insomnia
- Excessive daytime sleepiness
- Restless Leg Syndrome

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REM Sleep Behavior Disorder

REM sleep without atonia resulting in motor behaviors

Often precedes motor symptoms

Management
- Modify sleep environment for safety
- Medications
  - Often initiated for bed partner's safety/sleep quality
  - Melatonin
  - Clonazepam

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Insomnia

Occurs in 65-80% of PD patients
- Early morning awakening is most common
- Sleep fragmentation also occurs with high frequency
  - Twice as many awakenings as controls
  - Awake for 30-40% of nighttime hours

Management
- Address any mood disorder
- Sleep hygiene
- Melatonin
- Hypnotic medications
  - Use lowest dose possible
  - Be mindful of fall risk
- If nocturnal psychotic symptoms, may try quetiapine

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Excessive Daytime Sleepiness

Patients may fall asleep during normal daily activities

Multiple causes
- Neurodegenerative process
- Poor sleep quality
- Antiparkinsonian medications

Management
- Advice about risks, refrain from driving
- Identify treatable causes
  - Sleep apnea, sedative medications
- Improve sleep hygiene
- If needed, stimulants may be used

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Impactful Sleep Hygiene Practices

Establish a nighttime routine

Get up and go to sleep at the same time

Create a healthy sleep environment

Turn off electronics an hour before bed

Limit caffeine

Exercise

Reduce stress

Avoid large, fatty meals prior to sleeping

verywell

verywellmind.com

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Restless Leg Syndrome

Uncomfortable sensation of need to move while at rest which is temporarily relieved by voluntary movement of the affected limbs

Management

- Rule out secondary causes
  - Iron deficiency
  - Uremia
  - Thyroid disease
  - Neuropathy
- Dopamine agonists
- Levodopa
- Gabapentin
- Clonazepam
- Opiates

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Autonomic Dysfunction

- Drooling
- Constipation
- Bladder Dysfunction
- Orthostatic Hypotension
- Sexual Dysfunction

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Drooling

Occurs in 70-78% of people with PD

Not actually sialorrhea

Due to decreased frequency and efficiency of swallowing

Treatment
- Anticholinergic
  - Atropine
  - Glycopyrrolate
- Botulinum toxin injections into salivary glands

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Constipation

Most common GI complaint
- 50-60% of patients
- May be an early sign of disease

Contributing factors
- Slowed stool transit time
- Outlet obstruction
- Lack of exercise

Management
- Increase fiber and fluid intake
- Exercise
- Stool softeners
- Osmotic laxative (as needed or daily)
  - Polyethylene glycol – shown effectiveness in PD
  - Lactulose, sorbitol
- Stimulant laxatives and enemas only sparingly
- Prokinetic agents

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Present in >50% of patients

Detrusor overactivity
- Nocturia
  - Earliest and most common
- Urgency
- Frequency
- Incontinence

Detrusor hypoactivity/bradykinesia of urethral sphincter
- Difficulty voiding
- Hesitancy and abnormal stream
- Incomplete emptying

Management
- If acute change, rule out UTI
- Decrease evening fluid intake
- Urologic assessment
- Detrusor overactivity
  - Anticholinergics
    - Can cause constipation, dry mouth, or cognitive problems
  - Botulinum toxin injections
- Obstructive symptoms
  - Alpha adrenergic blockers
    - May worsen orthostatic hypotension

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May be caused by the disease, antiparkinsonian medications, or both

Management
- Increase fluid and salt intake
- Elevate head during sleep
- Compression stockings
- Abdominal binders
- Medications
  - Droxydopa
  - Midodrine
  - Fludrocortisone
  - Decrease DRT

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Most common is trouble achieving or maintaining erection

- Discontinue medications that can induce impotence
- Treatment of underlying depression
- Urologic evaluation
- Phosphodiesterase 5 inhibitors

Hypersexuality may be seen with dopaminergic therapies

- Dose reduction may be beneficial

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Non-motor symptoms are very common in PD and often begin before the onset of motor symptoms

Management of non-motor symptoms is important in optimizing quality of life in patients with PD

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Thank you!

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