

MANAGEMENT OF  
ADVANCED  
PARKINSON'S DISEASE:  
Non-Motor Complications

Eugene C. Lai, M.D., Ph.D.

Houston VA Medical Center

Baylor College of Medicine



# NON-MOTOR COMPLICATIONS IN PARKINSON'S DISEASE

- Neuropsychiatric manifestations
- Cognitive impairment
- Sleep disturbances
- Autonomic dysfunctions
- Sensory phenomena



# CLINICAL PROFILE OF PATIENTS WITH NON-MOTOR COMPLICATIONS

- 85 patients:
  - Mean age 66.2 (38-85)
  - Mean age at onset 58.9 (31-83)
  - Mean disease duration 7.8 (0.5-33)
  - Median H & Y 2.2 (1-5)
- 84.7% with motor fluctuations, all experienced one or more non-motor symptoms
- 47.2% with neuropsychiatric manifestations
- 84.7% with autonomic disturbances
- 69.4% with sensory phenomena



# RISK FACTORS FOR NON-MOTOR COMPLICATIONS

- Early age of disease onset
- Longer duration of disease
- Higher doses of levodopa
- Age of patient
- Presence of motor fluctuations



# MOST FREQUENT NON-MOTOR FLUCTUATIONS

NMF	FREQUENCY %	FREQUENCY DURING OFF %
Anxiety	66	88
Drenching sweat	64	59
Slowness of thinking	58	83
Fatigue	56	75
Akathisia	54	63
Irritability	52	88
Hallucinations	49	25

Witjas T et al. Neurology, 2002;59:408-413.



# INFORMATION NECESSARY TO MAKE DECISIONS IN THERAPY

- Medication regimen
- Response to medication dosing throughout the day
- Side-effects from medications
- Daily activities
- Dietary habits
- Sleep patterns
- Emotional state
- History of response to pharmacologic therapy



# NEUROPSYCHIATRIC MANIFESTATIONS IN PARKINSON'S DISEASE

- Depression
- Hallucination / delirium
- Behavioral fluctuation
  - Anxiety / panic
  - Agitation



# DEPRESSION IN PARKINSON'S DISEASE

- Affects 40-50% of patients
- Characterized by:
  - Feeling of guilt
  - Lack of self esteem
  - Loss of initiative
  - Helplessness, remorse, sadness
- Causes may be endogenous, exogenous, or both



# FREQUENCY OF NEUROPSYCHIATRIC SYMPTOMS

SYMPTOM	FREQUENCY %
Anxiety	66
Fatigue	56
Irritability	52
Hallucinations	49
Self-withdrawal	44
Euphoria	42
Lassitude/weariness	42
Sadness	38

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# TREATMENT OF NEUROPSYCHIATRIC PROBLEMS IN PARKINSON'S DISEASE

- Reduce / discontinue medications
- Treat underlying medical illness
- Antidepressants
- Atypical neuroleptics
- Anxiolytics
- Keep active / exercise
- Educate caregivers
- Psychological counseling



# COGNITIVE IMPAIRMENT IN PARKINSON'S DISEASE

- Affects up to 40% of patients
- Late feature of PD
- Differential diagnosis: PDD vs AD vs DLB
- Frontal-executive dysfunction, impairments of visuo-spatial abilities, temporal ordering, memory and attention
- Increases caregiver burden



# TREATMENT OF COGNITIVE IMPAIRMENT IN PARKINSON'S DISEASE

- No proven medical therapy
- Cholinesterase inhibitor?
- Avoid offending medications
- Symptomatic behavioral treatment
- Caregiver education



# SLEEP DISTURBANCES IN PARKINSON'S DISEASE

- Insomnia
- REM behavior disorder
- Nightmares
- Obstructive sleep apnea
- Excessive daytime sleepiness



# TREATMENT OF SLEEP DISTURBANCES IN PD

- Treat depression / anxiety
- Add controlled-release levodopa at bedtime
- Sleep hygiene program
- Short-acting sedative hypnotics
- Minimize nocturia
- Clonazepam for REM Behavior Disorders
- Discontinue tricyclic drugs and MAO inhibitors
- Avoid stimulants in evening
- Evaluate sleep disorder
- Judicious use of stimulants for EDS



# DYSAUTONOMIAS IN PARKINSON'S DISEASE

- Constipation
- Urinary problems
- Orthostatic hypotension
- Sexual problems
- Impaired thermoregulation
- Dysphagia
- Siarrhea/drooling



# TREATMENT OF CONSTIPATION IN PD

- Dietary modification
- Increase physical activity
- Stop anticholinergics
- Stool softener
- Bulk fibers
- Lactulose
- Mild laxative
- Education



# TREATMENT OF URINARY PROBLEMS IN PD

- Nocturia, frequency, urgency
- Reduce evening fluid intake
- Elevate head of bed
- Medication (oxybutynin, tolterodine)
- Consider urologic evaluation



# TREATMENT OF ORTHOSTATIC HYPOTENSION IN PD

- Eliminate antihypertensives, if possible
- Behavior modification
- Increase salt and fluid intake
- Support stockings
- Elevate head of bed
- Medications (fludrocortisone, midodrine)



# SENSORY PHENOMENA IN PARKINSON'S DISEASE

- Rigidity / cramps
- Dystonic pain
- Musculoskeletal pain associated with immobility
- Heaviness in limbs
- Restless leg syndrome



# TREATMENT OF SENSORY PHENOMENA IN PD

- Stretching exercises
- Medication adjustment
- Physical therapy
- Baclofen
- NSAIDs
- Botulinum toxin injection
- Rule out rheumatologic, orthopedic, radicular and neuropathic causes



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CLINICAL CENTER  
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