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

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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

<table>
<thead>
<tr>
<th>NMF</th>
<th>FREQUENCY %</th>
<th>FREQUENCY DURING OFF %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>66</td>
<td>88</td>
</tr>
<tr>
<td>Drenching sweat</td>
<td>64</td>
<td>59</td>
</tr>
<tr>
<td>Slowness of thinking</td>
<td>58</td>
<td>83</td>
</tr>
<tr>
<td>Fatigue</td>
<td>56</td>
<td>75</td>
</tr>
<tr>
<td>Akathisia</td>
<td>54</td>
<td>63</td>
</tr>
<tr>
<td>Irritability</td>
<td>52</td>
<td>88</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>49</td>
<td>25</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>FREQUENCY %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>66</td>
</tr>
<tr>
<td>Fatigue</td>
<td>56</td>
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<tr>
<td>Irritability</td>
<td>52</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>49</td>
</tr>
<tr>
<td>Self-withdrawal</td>
<td>44</td>
</tr>
<tr>
<td>Euphoria</td>
<td>42</td>
</tr>
<tr>
<td>Lassitude/weariness</td>
<td>42</td>
</tr>
<tr>
<td>Sadness</td>
<td>38</td>
</tr>
</tbody>
</table>

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