Parkinson’s disease: & related sleep disorders

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Sleep:

- Decreased awareness of environmental Stimuli
- Universal behavior, demonstrated in all animals
- SLEEP IS NOT A LUXURY, IT IS A NECESSITY for **SURVIVAL**
Non-motor Symptoms:

Sleep disorders in Parkinson:

REM behavior disorder
Insomnia, Hypersomnia
Sleep Apnea
Difficulty turning in bed
Urinary and Erection problem
Restless Legs
Rapid eye movement sleep (REM sleep)

• Unique phase of sleep only (in mammals & birds)
• Low muscle tone throughout the body (like being paralyzed!)
• Dreaming stage
• Heart rate, Blood pressure, Breathing rate increase; body temperature decreases.
• REM & non-REM sleep alternate within 1 sleep cycle: about 90 minutes

Lack of REM sleep lack of muscle tone: causes REM Behavior disorder (RBD)
REM sleep behavior disorder (RBD)

- Acting out dreams
- Complex movements
- Fighting
- Usually early in the morning
- Typically in men
- Patient-bed partner injury
RBD Treatment

• Make sleeping environment safer
• Moderate: **Melatonin 3 - 12 mg nightly**
• Severe: **Clonazepam 0.25mg–1.0 mg nightly**
• Treat any underlying conditions: **Obstructive sleep apnea, nightly urination**
Obstructive Sleep Apnea

• Parkinson patients, even with normal body weight, are at risk

• How it presents:
  » Snoring
  » Daytime somnolence and naps
  » Daytime fatigue
  » Nighttime frequent awakenings

• Please see your sleep doctor for evaluation: CPAP
Insomnia: difficulty falling or staying asleep

Various reasons:

• Brain chemical disturbances
• Motor symptoms of PD:
  • Tremor
  • Stiffness
  • Difficulties rolling
  • Wearing-off phenomenon
  • Early morning dystonia
• Restless legs
• Musculoskeletal pain
What to do:

- Sleep hygiene
- Review Medication list (Amantadine, selegiline)
- Nighttime motor symptoms
- USE CPAP for Obstructive sleep apnea
- Depression
- Treatment: Melatonin, Trazodone, Mirtazapine, Clonazepam (if RBD)
Sleep hygiene

- Get proper light exposure during the daytime
- Exercise daily but not 3 hours before sleep
  - Avoid naps after 3 PM
- Avoid stimulant, coffee or tea after lunch
  - Avoid spicy food for dinner
  - Take a hot bath before bed
- Avoid electronics in the bedroom
- Keep bedroom dark, quiet & cool
- Bed time routine 7-8 hours daily
  - Don’t lie in bed if awake
Restless Leg Syndrome

- Irresistible urge to move the legs
- Tingling or creepy-crawly feelings
- At rest or not moving
- Only occur in the evening and night
Suggestions:

- Gently massage the area
- Gently stretch the muscles in your legs
- Apply a hot or cold pack to the area
- **Take a warm bath in the evening**
- Avoid alcohol, caffeine and smoking
- Avoid foods that seem to trigger restless legs
- Practice relaxation exercises before bedtime
- Participate in regular exercise during the daytime

Treatment:

- Pramipexole, Ropinirole
- Clonazepam
- Baclofen
- Clonidine
- Gabapentine, Pragabaline
Nocturia:
• Waking up from sleep more than once to pass urine
• Common in Parkinson disease
• Reasons: Reduced nightly bladder capacity due to bladder overactivity

What to do:
• See your urologist (Evaluation: urinalysis, ultrasound, concomitant urological problem: Prostate enlargement or Infection)
• Restriction of fluids in the evening (at least 4 h prior to bedtime)
• Avoid Caffeine and/or alcohol near bed time
• Diuretics act within 2 h of administration (Taking late in the evening exacerbate bed time urination)
• Compression stockings and Elevation of the legs above the heart level in the afternoon
• Emptying the bladder before going to bed
Treatment:

- Antidiuretic hormone: desmopressin nasal spray (Noctiva).
- Benign prostatic enlargement: melatonin.
- Medications: solifenacin (Vesicare), Oxybutinin.
- **Botox** injection can be effective (risk of urinary retention).
- For patients in whom pharmacotherapy has failed: minimal invasive surgical procedure.
- Erectile dysfunction is commonly reported and can be treated with Cialis.

Caution!

- Reduce the risk for falls at night.
- The path to the toilet should be well-lit.
- Room with falls safety.
- Using a bedside commode or urinal.
Hypersomnia: excessive sleepiness

- Poor sleep at night (Obstructive sleep apnea)
- Medications:
  - Pramipexole, ropinirole
  - Artane
  - Oxybutynin,
  - Benadryl
  - Dextromethorphan
  - Bupropion
  - Nortriptyline
  - Benzodiazepines (xanax, librium, clonazepam, diazepam)
Conclusions

- Sleep is significantly impaired in Parkinson’s disease

- Treatments are available: IT IS A TEAM WORK!

- Improvement of the nightly Parkinsonism & reducing bathroom awakenings can reduce the sleep difficulties and improves Parkinson symptoms

- Recognize the drugs that may be contribute to sleep problem

- MUST: Strict adherence to principles of Sleep Hygiene
Thank you and wish you a good night sleep tonight!