Sleep and Other Non-Motor Features of Parkinson's Disease

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Outline

• Sleep disorders
  • RBD
  • RLS
  • PLMS
  • Anything

• Autonomic function
  • Orthostatic hypotension
  • GI: constipation
  • GU: bladder spasm/sexual dysfunction

Low blood pressure
Falling over
Sleep Disorders

- Common (nearly all patients)

- Thought secondary to pathologic spread of the Lewy Body

- Just about every sleep disorder has been discussed with PD
Diagnosing a sleep disorder

- Gold standard- Sleep study/Polysomnogram which combines EEG, EMG, EKG, eye movements, and Oxygenation to understand sleep cycle

- Clinical diagnosis
- questionnaires (Epworth Sleepiness Scale)
- At times- presumed based on symptoms
REM Behavior Disorder (RBD)

- “Acting out of one’s dreams”
- Loss of paralysis during REM (dreaming) state
- Range from mild (talking) to severe (hands around spouse’s neck, falling out of bed causing brain bleed)
  - Published studies suggest risk for sleep-related injury is between 33-66%
- Thought to be risk factor for development of PD (Significant number of patients with this early in life develop PD later)
  - Estimates are 40-65% of patients with RBD at a younger age go on to develop a synucleinopathy
RBD treatment (at bedtime)

- Making a safe environment (mattress next to the bed, sleeping in separate beds/rooms from partner, separating by pillows/padded rails, removing dangerous objects from bedside with corners or windows)

- Clonazepam: 0.25-4mg
- Melatonin: 3-12 mg
- Pramipexole (conflicting results): 0.125-1.5mg
- Paroxetine (conflicting results): 10-40mg
Restless Legs Syndrome (RLS)

• Defined by crawling sensation of the legs, feeling they need to move, with relief when movement occurs. Tends to begin at night but can pervade into earlier in the day as it progresses.

• Unclear if this is a risk for development of PD.

• Separate from PD, does seem to be dopamine mediated.
RLS treatment

- Warm baths/warm or cold packs, good sleep, moderate exercise, reduce caffeine
- Iron supplementation (if deficient)
- Dopamine agonists (Ropinirole/Requip, Pramipexole/Mirapex, Rotigotine/Neupro)
- Gabapentin or Pregabalin (Lyrica)
- Levodopa (Sinemet)- but seems to cause anticipation meaning more is needed and earlier in the day
- Narcotics
- Clonazepam
Periodic Limb Movements of Sleep (PLMS)

- Different from RBD and RLS
- Defined by repetitive movements of the limbs (usually legs) during sleep (unprovoked and unconsciously)
- Treatment is usually underlying cause, with particular attention to good sleep hygiene
Everything else in sleep

- Obstructive Sleep Apnea (OSA)- commonly due to habitus, perhaps increased in PD- treated with CPAP

- Excessive Daytime Sleepiness- can be compounded by medications (particularly anticholinergic agents and dopamine agonists), concomitant conditions, and aging

- Insomnia- can be compounded by medications (amantadine) and depression
Sleep attack

• Associated with dopamine agonists (ropinirole/Requip, pramipexole/Mirapex, rotigotine/Neupro)
• Prevalence of 6-8%
• Cause of Motor Vehicle accidents 2%
Autonomic symptoms

- Orthostasis
- GI
- GU
Orthostasis

- Drop in BP on standing, >20 points systolic or >10 points diastolic, after standing 2-5 minutes, HR increase 30 beats

- Non-pharmacologic Treatment
  - Increase water
  - Decrease alcohol
  - Elevate the head of the bed
  - Stand slowly
  - Watch heat
  - Compression stockings
  - Adding salt
  - Cross legs if symptoms occur while standing
Orthostatic hypotension: Pharmacologic tx

- Midodrine/Proamatin (decreasing ability of blood vessels to relax): 2.5-10mg up to 3x/day
- Fludrocortisone/Flurinef (increasing fluid into blood vessels): 0.1-0.2mg/day
- Droxidopa/Northera: 100mg daily to 600mg 3x/day

- All risk supine hypertension

- (Less common- Fluoxetine 10-60mg, Pyridostigmine 60mg daily to 90mg 3x/day)
Gastrointestinal symptoms

- Constipation
  - Defined as <3 BMs per week
  - Also viewed as premotor symptom in PD (Lewy Bodies identified in the gut of patients with PD prior to them having motor features)
  - Fecal transplant/changing the biome is a proposed tx
Constipation treatment

• Diet: Fiber, fruit, bulk, water (prunes, bran)
  • “Cocktail” mix ½ c applesauce, 2 TBSP wheat bran, 4-6z prune juice-
  take 1 TBSP per day

• Exercise

• Stool softeners (Docusate/Colace)

• Laxatives: 1) Stimulant(senna/Senokot/bisacodyl/Dulcolax; can be used
  with docusate as Senokot-S or Peri-Colace); 2)Lubricant (Fleet’s);
  3)Osmotic (MOM, Mag Citrate, Miralax, Glycerin suppository)- fastest
  4)Bulking (psyllium/Metamucil, Fibercon, Citrucel)- long term, days

• Prescription meds: Lubirpostone/Amitiza which increases intestinal fluid
  secretion or Linactolide/Linzess which regulate fluid and speed up
  intestine
Genitourinary symptoms

- Bladder spasm
- Urinary retention
- May need urodynamic studies to distinguish (particularly with enlarged prostate)

- Treatment – suggest bladder spams agents that do not cross blood brain barrier as these will not cause confusion:
  - Solifenacin (Vesicare)
  - Trospium (Sanctura)
  - Mirbetron (Myrbetriq)
Erectile Dysfunction

- Pump/implants
- Alprostadil injections
- Oral medications
  - Sildenafil/Viagra
  - Vardenafil/Levitra
  - Tadalafil/Cialis
Thank you!!