Sleep Disorders in Parkinson’s Disease

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Why Sleep?

- 1/3 of life...comatose!
- Evolutionary – worms “sleep”
- Psychosis/Death

THEORIES
- 1. Energy conservation
- 2. Clean out waste
- 3. Plasticity and reconnections: memory, attention span
What can go wrong in PD?

- Fragmented sleep
- Restless leg syndrome, periodic limb movement disorder
- REM sleep behavior disorder
- Dystonia (legs or arms)
- Urinary frequency
- Sleep walking/parasomnias
- Sleep apnea
  - Mini hypoxias
  - Cardiovascular risk
  - Stroke risk
  - Dementia risk
Sleep Apnea

Not just snoring

- Micro awakenings
- Tired the next day
- Memory problems
- Fatigue

- And you may not know you have it!
REM Behaviour Disorder (RBD)

- No muscle atonia during REM sleep
- Ability to act out complex dream behaviour
- Bedpartner often the “victim”
- Age of onset: 50 – 60yrs. Males (90%)
- Usually opposite of waking personality
- Strongly associated with synucleinopathies
  - Parkinsonism/Parkinson’s
  - Lewy Body Dementia
Parasomnias

- Sleep walking
- Nightmares
- Sleep eating
Dystonia can lead to contracture deformities and carpal tunnel syndrome
Restless leg syndrome

- Sensory disturbance
- Need to move legs (or limbs) whilst still
- Prevents sleep
- Often associated with PLMD
- Sometimes assoc. with neuropathy
- iron deficiency
RLS: Criteria for Diagnosis

- *Urge to move* the limbs *often* with uncomfortable sensations
- Symptoms are worse or exclusively *at rest* or during periods of inactivity
- Symptoms are partially or totally *relieved by movement*
- *Circadian rhythm*: symptoms must be worse or exclusively in the evening or night

RLS Features

- Sensory symptoms:
  - Creepy, crawly, tingly, painful, burning, achy
  - Like worms or bugs crawling deep in the muscle; Like water running under the skin
- Usually affects both legs simultaneously
- May be unilateral or alternating
- Arms may be involved

Pathophysiology: Possible Role of Iron

- CSF: ferritin decreased/transferrin increased suggesting low brain iron stores
- MRI: decreased iron in SN and putamen
- Pathology: iron levels decreased in SN

Davis et al. *Eur Neurol* '00; Earley et al. *J Neurosci Res* '00; Earley et al. *Neurol* '00; Allen et al. *Neurol* '01; Connor et al. *Neurol* '03; Connor et al. *Neurol* '04; Allen *Sleep Med* '04; Early et al. *Sleep* '05; Early et al. *Sleep Med* '06
Daytime Fatigue and Sleepiness

- Often due to the above primary sleep disorders
- BUT! Medications:
  - Dopamine Agonists – sudden sleep attacks
  - Sedative hangover
  - Antipsychotics
  - Antidepressants (rare)
  - Blood pressure medications
How to tell the difference?

- Tell your doctor
- Ask your sleep partner
- Trial and error with the medications
- Sleep study or sleep specialist
- Sleep inventory
What to do if you have any of these?

- Nap only 30 minutes a day; sleep no more than 7 hours
- Good sleep hygiene and exposure to real light
- Urinary frequency – drugs that inhibit the bladder
- Sleep fragmentation/RBD – clonazepam
- Sleep apnea – mouth devices, machines, lose weight
- RLS – dopamine agents/clonazepam; iron
- Dystonia – BTX injections, dopamine. Don’t sleep on curled limbs
- ?stimulants
RLS tips

- Activity before bedtime
- Avoid caffeine
- Walk on airplanes/trains
- Driving breaks
- Avoid caffeine
- Ask doctor about antidepressants
HOME REMEDIES FOR RESTLESS LEG SYNDROME

HOT AND COLD FOOT SOAKS
1. Fill one tub with cold water and another with bearable hot water.
2. Put your feet in the hot water for 3 minutes.
3. Then dip them in cold water for 10-60 sec.
4. Repeat 2 or 3 times.

APPLE CIDER VINEGAR
Add 1 tbsp apple cider vinegar to a glass of lukewarm water. Sip it slowly about half an hour before going to bed. Do this daily.

EPSOM SALTS
Driving for sleep disorders PD patients

- May need to reduce meds or cut DA
- Use good judgement; don’t take sleep causing med 30 minutes before driving
- Be extra alert at signal stops
- Never stop on a train track
- Use a stimulant before driving (??)
- No THC!
- We don’t have to “turn you in” for this. Tell your doctor!