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Home PSG study indications

- High pretest probability of OSA (symptomatic, history of frequent witnessed apneas, obese, neck circumference >17 inches
- Absence of comorbidities that may impact the accuracy of the test (ie, COPD, heart failure, neuromuscular disorders, awake hypoxemia or hypercapnia
- Absence of conditions that increase the risk for central sleep apnea, or significant insomnia

Hypoglossal nerve stimulator (HNS)

- Indications
    - Moderate to severe OSA with AHI between 15 and 65
        - Of which less than 25% of events are central and mixed apneas
    - Failure or intolerance of PAP therapy
    - BMI less than 35
    - Absence of complete concentric collapse at the level of velopharynx or soft palate on drug-induced sleep endoscopy
        - 20 to 30% of patients have complete concentric collapse of the velopharynx and are therefore not candidates for HNS
- The battery typically lasts 10 years, after which the pulse generator will need to be replaced surgically
- Inspire HNS manufactured after summer 2022 is MRI compatible

Persistent sleepiness despite PAP adherence and effectiveness

- Consider alternate pathologies
    - Medical or psychiatric disorders
    - Side effects from pharmacotherapy
- If no alternative explanation can be identified, consider
    - Reevaluation with PSG (to evaluate for alternative intrinsic sleep pathology that might be disrupting sleep) or MSLT to evaluate for narcolepsy
    - Use of wakefulness-promoting agents (Modafinil, Armodafinil or Solriamfetol)

Bilevel PAP therapy indications

- Patient who fails CPAP owing to persistent OSA despite >15 cm H_2O pressure
- Need for ventilatory support during sleep

Mixed apneas

- Central apneas followed by obstructive apneas treated with CPAP
- Episodes are added to obstructive hypopneas and obstructive apneas to calculate the overall AHI

Emergent central sleep apnea (TECSA)

- Can occur in 8% of patients but resolve after 6 to 12 weeks of adherent CPAP in 50%-85%
- Lack of resolution is more frequent in pts with other ongoing risk factors (e.g., Afib, HF, opioid use)
- Currently, there are no effective PAP treatments for CSA and Cheyne-Stokes respiration in patients with HFrEF (EF >45%)
    - Bilevel PAP with a backup respiratory rate could be considered in lieu of ASV

Narcolepsy

Type 1 with cataplexy
Type 2 without cataplexy

Clinical presentation

- Hypersomnia longer than 3 months despite adequate sleep duration
- Naps that tend to be refreshing for a short period of time
- Cataplexy
    - Importantly, consciousness remains intact during cataplexy, and weakness usually resolves in 1 to 2 min
- Sleep paralysis
- Hypnagogic hallucinations (vivid visual, tactile, or auditory hallucinations that occur as the patient is falling asleep) or waking up (hypnopompic hallucinations)

Diagnosis

- PSG followed by MSLT
    - Poor sleep efficiency on the PSG and untreated sleep apnea can lead to an abnormal MSLT and if present, MSLT should be canceled
    - Mean sleep latency across the five naps is ≤8 min and at least two of the naps have sleep-onset REM period
    - It can also be diagnosed if the MSLT shows a mean sleep latency of ≤8 min and one sleep-onset REM period as long as the preceding PSG has a REM sleep latency of less than 15 min

Management

- Good sleep hygiene and strategic napping
- Wake-promoting agents such as modafinil, armodafinil, solriamfetol, and pitolisant
- In those who are refractory to first-line agents, methylphenidate and amphetamines can be considered

Periodic limb movement disorder (PLMD)

Diagnostic criteria

- PLMS index >15/h associatedecw with:
    - Sleep disturbance (difficulty with sleep maintenance) or impaired daytime function combined with
    - Exclusion of alternative causes of sleep complaints

Treatment

- Isolated asymptomatic PLMS does not require treatment
- Mild isolated cases of PLMS can be treated with benzodiazepines (clonazepam 1 mg/d)
- The approach for moderate to severe is similar to that of RLS
    - Discontinuing or changing medications that can exacerbate RLS and PLMD
        - Most antidepressants can worsen RLS and PLMD, except bupropion
        - Sedating antihistamines and dopamine blocking agents such as metoclopramide
    - Iron supplementation can improve RLS but has not been studied in PLMD
        - The rationale for iron supplementation, even in the absence of anemia, is based on the theory that in RLS, there is a deficit in central brain iron despite low-normal or normal peripheral iron stores
        - Iron therapy should not be prescribed empirically for RLS because it may result in iron overload
    - Most commonly prescribed medications for RLS and PLMD
        - Gabapentinoids (pregabalin, gabapentin enacarbil) taken 1 or 2 hours in the evening before usual onset of symptoms
            - Pregabalin (prefered): 75 mg/d. It can be increased by 75 mg every third day. The usual effective dose is 150 mg to 450 mg/d
            - Gabapentin: 100 mg/d. It can be increased by 100 mg every third day to a maximum dose of 1800 mg/d. The usual effective dose is 900 mg to 1800 mg/d
            - High doses can limit treatment owing to adverse effects that most commonly include fatigue, dizziness, confusion, ataxia, dry mouth, and nausea
        - Dopaminergic agents (pramipexole, ropinirole, rotigotine) taken 2 hours in the evening before usual onset of symptoms
            - Pramipexole (prefered): 0.125 mg/d. It can be increased by 0.125 mg every third day to a maximum dose of 0.5 mg/d. The usual effective dose is <2 mg/d
            - Ropinirole: 0.25 mg/d. It can be increased by 0.125 mg every third day to a maximum dose of 4 mg/d.
        - For both gabapentinnoids and dopaminergic agents the titration up should be until relief is obtained or development of side effects