OSA Management 2019 Update

Neil Freedman, MD
Updates in Internal Medicine for the Primary Care Provider
I Have No Conflicts of Interest
Objectives

• Identify patients who are at increased risk for obstructive sleep apnea
• Understand the role of obesity with respect to OSA pathophysiology, epidemiology and management
• List new developments in the management of OSA
OSA: Scope of the Problem

• Prevalence of OSA:
  – As common as asthma
    » Wisconsin Sleep Cohort
      – 24% of men and 9% of women (Age 30 to 60)
      – 4% of men and 2% of women with daytime sleepiness

• Prevalence will increase as the population ages and obesity increases

• Estimate that up to 80% undiagnosed

• Undiagnosed OSA associated with morbidity and mortality

• Treatment can improve outcomes
OSA Risk Factors

• Age
• Men (Up to age 50)
• Postmenopausal state
  – Risk between genders similar after menopause
• Overweight and obesity (up to age 60)
• Ethnicity
  – African American, Asian, or Hispanic
• Upper airway anatomic obstruction
• Medical problems:
  – Congestive heart failure, history of a stroke, kidney failure
History and Physical Exam Alone Not Diagnostic in Many Cases

• Many patients won’t have symptoms!
  – > 50% won’t complain of daytime sleepiness
  – Some patients define their symptoms differently
  – Key point: The absence of daytime symptoms does not rule out the disease

• Bed partner history of snoring and witnessed apneas:
  – Positive predictive value of 64%
  – Witnessed apneas best historical predictor

• Expert healthcare provider subjective impression:
  – Correctly identifies only 50% of sleep apnea patients

• No single screening tool that consistently identifies patients at high risk for OSA
Question 1

Which one of the following patients would be the most appropriate to undergo home sleep apnea testing (HSAT) for obstructive sleep apnea?

A) 45 year old male (BMI 35 kg/m²) with snoring, daytime sleepiness and hypertension.
B) 65 year old female (BMI 33 kg/m²) with snoring, daytime sleepiness and congestive heart failure.
C) 70 year old male (BMI 26 kg/m²) with snoring, daytime sleepiness and COPD.
D) 25 year old female (BMI 22 kg/m²) with snoring, fatigue, fibromyalgia and depression.
Question 1: Answer

Which one of the following patients would be the most appropriate to undergo home sleep apnea testing (HSAT) for obstructive sleep apnea?

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PSG, or HSAT with a technically adequate device, can be used for the diagnosis of OSA in uncomplicated adult patients presenting with signs and symptoms that indicate an increased risk of moderate to severe OSA

- An HSAT should **not be used for general screening of asymptomatic populations**

PSG, rather than HSAT, should be used for the diagnosis of OSA in patients with significant hypoventilation, chronic opioid medications, a history of stroke or severe insomnia

Role of New Technology Unclear

Fitness Trackers

Beddit Sleep Monitor

UW Apnea App for Smartphones

Pulse Oximetry

Case

- A 55 year old male presents with symptoms of snoring, witnessed apneas and daytime sleepiness and is recently diagnosed with obstructive sleep apnea (OSA).
- PMHx: HTN, atrial fibrillation, DM, depression and obesity
- PE:
  - BMI: 32 kg/m²
  - Vitals: BP: 150/90   P: 92   R: 12
  - Exam otherwise normal
Question 2

Which one of the following is the most likely to improve with OSA treatment?

A) Blood pressure
B) Daytime sleepiness
C) Depression
D) Weight
Question 2: Answer

Which one of the following is the most likely to improve with OSA treatment?

A) Blood pressure
B) **Daytime sleepiness**
C) Depression
D) Weight
Treatment Outcomes for OSA: What to Expect

- Improves symptoms of daytime sleepiness
- Improves cognitive dysfunction in patients with dementia
- Reduces motor vehicle accidents
- Treatment can reduce blood pressure
  - Daytime sleepiness and uncontrolled HTN may predict a more robust BP response
  - Better adherence = Better BP response
- Improves LVEF in patients with systolic dysfunction
- May improve outcomes in patients with atrial fib
- Treatment is not associated with weight loss
- Improvement in DM, lipids and metabolic syndrome debatable
- The role of treatment for patients without daytime sleepiness is not clear
Treatments for OSA

• Primary Therapies
  – PAP
  – Oral Appliances

• Secondary Therapies:
  – Weight loss
  – Position therapy
  – Avoidance of alcohol and sedatives
  – Hypoglossal nerve stimulation device
  – Surgery: Upper airway and bariatric
Weight Loss and OSA

• Few randomized controlled trials and much heterogeneity between studies
• Conclusions:
  – Surgical and medical weight loss typically result in reductions in BMI and AHI, but clinically significant OSA persists in the majority of patients
• Take home point:
  – Follow up sleep apnea testing recommended once maximum weight loss and maintenance achieved

Hypoglossal Nerve Stimulation Therapy
Hypoglossal Nerve Stimulation for OSA

• Approved by the FDA in 2014 and recently approved by local Medicare carrier
• Approved for:
  – Adults with BMI \leq 32 \text{ kg/m}^2, AHI 15 to 65
  – Intolerant to CPAP
• Current supporting data:
  – Improves OSA, daytime sleepiness and QOL with up to 5 years of follow up
    » Mean 68% reduction in AHI over a year (AHI 29.3 to 9)
  – Low complication rate: < 2%
  – Concentric upper airway collapse predicts worse outcome
  – Newer data support better outcomes for women and older individuals
• Role in OSA therapy continues to be evolving
  – Cost and surgeon experience are the major factors
Pharmacologic Therapy

- Few well-done studies
  - Previous studies without significant improvements
- Treatment of residual daytime sleepiness
  - Modafinil, armodafinil,
  - New: Solriamfetol
- THC agonists
  - Dronabinol: Too early to tell
- Oxygen
  - Not recommended as primary therapy
  - CPAP better in patients with known CV disease
- Prescription hypnotics:
  - Probably don’t make sleep apnea worse
- Future: Phenotype directed therapies
OSA: Conclusions

• Common and underdiagnosed
• Patients with daytime sleepiness tend to have better treatment outcomes than those without daytime symptoms
• Home sleep apnea testing is appropriate for patients with a high clinical suspicion for uncomplicated OSA
• Weight loss should be recommended, though follow up testing is necessary prior to modifying therapy
• Hypoglossal nerve stimulation therapy now approved by Medicare in our region
• Currently no pharmacologic therapy that significantly improves OSA
Thank You