The Opioid Epidemic and the OSA Patient

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Disclosures

- None.
Overview

- The opioid epidemic
- Implications for the OSA patient
- Recommendations for clinical practice
The Opioid Epidemic


Not Just One Thing

3 Waves of the Rise in Opioid Overdose Deaths

SOURCE: National Vital Statistics System Mortality Data
The Opioid Epidemic is Complex

Recent Trends

12 Month-ending Provisional Number of Drug Overdose Deaths

Based on data available for analysis on: 2/3/2019

Recent Trends

2018 CDC Annual Surveillance Report of Drug-Related Risks and Outcomes
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The dramatic increase in use of opioids is of concern to sleep specialists. Recent studies have shown that 75 to 85 percent of patients on opioids have at least mild sleep apnea, and 36 to 41 percent have severe sleep apnea, of which the severity is dose dependent. The mechanisms by which opioids cause sleep disordered breathing are poorly understood.

Opioid induced sleep apnea falls within the spectrum of complex sleep apnea, characterized by a combination of obstructive apneas and central sleep disordered breathing. The respiratory pattern may be periodic or non-periodic.
In chronic pain patients on opioids:
- 75-85% experienced sleep disordered breathing (SDB)
- OSA accounted for 20-39% of SDB
- Central apnea was more frequent in opioid patients compared to non-opioid controls
- Discontinuing opioids decreased apneic events
- Concurrent benzo use 6-65%

Of chronic opioid therapy patients referred for polysomnogram:
- 36% (95% CI, 26-46%) OSA
- 24% (95% CI, 16-33%) central sleep apnea
- 21% (95% CI, 14-31%) combo sleep apnea
- 4% (95% CI, 0-10%) indeterminate
- 15% (95% CI, 9–24%) no sleep apnea
Opioids for Obstructive Sleep Apnea Should Be Used With Caution

Hannah Dellabella

Although higher-quality evidence is needed, current literature suggests that opioids should be used with caution in individuals with obstructive sleep apnea (OSA) in order to prevent opioid-induced respiratory depression (OIRD), according to study results published in Anesthesia and Analgesia.

Opioids may have a detrimental effect in individuals with obstructive sleep apnea.

Opioids for Acute Pain Management in Patients With Obstructive Sleep Apnea: A Systematic Review

Crispiana Cozowicz, MD,*‡ Frances Chung, MBBS, FRCPC,* Anthony G. Doufas, MD, PhD,§ Mahesh Nagappa, MD,¶ and Stavros G. Memtsoudis, MD, PhD*†

The initial 24 hours after opioid administration appear to be the most critical, rendering patients most receptive to respiratory insufficiency during this period. The postoperative period is marked by changes in sleep architecture, increased pain severity, and high analgesic requirement, resulting in worsening of sleep-disordered breathing. Opioids may play a significant role in the postoperative worsening of OSA.
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Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain

1.3.2 Sleep Apnea

Opioids can aggravate not just central sleep apnea, but frequently also significantly aggravate obstructive sleep apnea. High opioid doses may contribute to sleep movement disorders including myoclonus and sometimes choreiform movement, and in combination with benzodiazepines and other drugs may significantly contribute to oxygen desaturation (Zgierska 2007, Mogri 2008, Farney 2003). Consider a sleep study for patients using high-dose opioids, opioid in combination with other sedating drugs, elderly patients, obese patients, and patients with somnolence.

* Patients at higher risk of opioid overdose are those with:
  - Renal or hepatic impairment: Caution is advised, because opioids are metabolized in the liver and excreted through the renal system (Tegeder 1999, Foral 2007). Morphine is contraindicated in renal insufficiency.
  - Chronic obstructive pulmonary disease (COPD) and sleep apnea: Opioid use may be a risk factor for central sleep apnea (Mogri 2008). Tolerance to the respiratory depressant effects of opioids develops slowly and incompletely, putting COPD patients at risk for respiratory depression with a higher dose increase.
  - Sleep disorders: Sleep disorders, including insomnia and daytime sleepiness, are common among opioid users (Zgierska 2007). They may reflect the effects of pain, or the sedating effects of opioids, or concurrent depression.
  - Cognitive impairment: Opioids should be avoided in cognitively impaired patients who live alone, unless ongoing medication supervision can be arranged.
Suggested risk mitigation interventions:
- Opioid dose reduction and trial of nonopioid therapies
- Avoiding use of benzodiazepines, sedatives, and hypnotics
- Caution against alcohol use
- Sleep medicine consultation and treatment of SDB
Patient Education is Lacking

Quality of Patient Education Materials on Safe Opioid Management in the Acute Perioperative Period: What Do Patients Find Online?

- Average reading level of online education materials was above 8th grade
- Search for patient education materials on safe opioid management after surgery
- <50% of online education materials specifically mention opioid tapering or cessation
- 6th grade is recommended!


Patient Education is Effective

- Short communication
- Patient education and engagement in postoperative pain management decreases opioid use following knee replacement surgery
- New Patient Education Card Introduced
- Median 71 mg morphine equivalents
- Median 38 mg morphine equivalents
- No differences in pain scores or ambulation achievement

Leadership Required

Joint Commission Enhances Pain Assessment and Management Requirements for Accredited Hospitals

The Joint Commission announces the implementation of new and revised pain assessment and management standards, effective January 1, 2018, for its accredited hospitals. These new and revised requirements were developed through a rigorous research, evaluation, and review process.

Elements of Performance for LD.04.03.13

1. The hospital has a **leader or leadership team** that is responsible for pain management and safe opioid prescribing and develops and monitors performance improvement activities.
ASA-Premier Pilot Collaborative

Be a Leader in Curbing the Opioid Epidemic

JOIN PREMIER HIIN AND ASA’S PILOT COLLABORATIVE
Safer Post-Operative Pain Management: Reducing Opioid-Related Harm

BACKGROUND
The opioid epidemic is a national priority. Research and studies show that opioid misuse and potential for abuse can begin with legitimately prescribed opioids following a medical procedure. Moreover, the prevalence of prescribed opioids is contributing to the drugs availability in society.

WHO
Premier’s Hospital Improvement Innovation Network (HIIN) and the American Society of Anesthesiologists (ASA) have partnered to offer HIIN participating hospitals a pilot project to collaboratively address the national opioid epidemic and priority.

WHAT
Measurably reduce and/or prevent opioid-related harm among adult surgical patients having elective hip and knee arthroplasty or colectomy procedures.

HOW
Safer Post-Operative Pain Management is a team activity requiring active leadership, provider champions, a multidisciplinary team, and patient-family engagement.

ASA-AAOS Collaboration

Pain Relief Toolkit

- Preoperative Pain Relief
  - Education: Help prepare patients for what to expect and make a plan for pain relief.

- Postoperative Pain Relief
  - Pain is part of the healing process and knowing what to expect will help patients achieve peace of mind.

- Emergency Dept. Opioid Strategy
  - Strategies for relief of musculoskeletal pain in the Emergency Department.

- Orthopaedic Dept./Service Strategies
  - Having a prescribing policy in place, such as requiring prior approval from a physician on limiting the number of pills prescribed, will reduce the number of pills that can potentially be diverted, abused, and/or misused.

- Safe Use, Storage, and Disposal Strategies for safely using, storing and disposing of opioids.

https://aaos.org/Quality/PainReliefToolkit/?ssopc
We discussed:

- *The opioid epidemic*
- *Implications for the OSA patient*
- *Recommendations for clinical practice*