



Opioid-Induced Sleep Apnea: Is it a Real Problem?

In 1997 the American Academy of Pain Medicine and the American Pain Society stated that “It is now accepted that respiratory depression induced by opioids tends to be a short lived phenomenon, generally occurs only in opioid-naive patients and is antagonized by pain.” Therefore, withholding the appropriate use of opioids from a patient who is experiencing pain on the basis of respiratory concerns is unwarranted”. “Obstructive or central apnea/hypopnea, hypo ventilation during sleep, and impairment of respiratory concerns is unwarranted.” In 2007 the broad spectrum of Sleep Related Breathing Disorders (SRBD) under opioids were described retrospectively by JM Walker. Besides obstructive disturbances, they found central apneas, ataxic or irregular respiration, and periods of sustained hypo ventilation. **Peripheral and central chemo sensitivity plays a major role leading to a reduction of the hypoxic and hypercapnic ventilatory response.**

Are there specific signs and symptoms of opioid induced sleep apnea? They are certainly associated with dizziness, impaired concentration, and daytime sleepiness. **But is it possible to differentiate between central nervous system effects and breathing disturbances?** Generally speaking, sleepiness and deficits in neurocognitive parameters cease during long-term application, so that even driving may be permitted. However, this trend is not to be expected in SRBD.

CPAP interferes with SRBD in several ways: it stabilizes the upper airways and counterbalances upper airway obstruction, the positive thoracic pressure reduces left ventricular cardiac after load and therefore improves the ejection fraction; and finally, CPAP can enlarge lung volumes and reduce ventilation-perfusion mismatch.

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About Us

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Sleep Facts

Did you know?

Case study

A 27 year old was referred to a Sleep disorders Center for evaluation of Sleep Disordered Breathing. She was not on any therapy. History of snoring, mouth breathing, dry mouth, daytime fatigue, naps 2 - 3 times/week, Epworth 10/24, Sleep latency 60 min, refreshed in the AM upon awakening. No chest pain, no SOB, no witnessed apneas.

History included Type 1 diabetes, chronic pancreatitis, gastroparesis, and chronic pain. Surgical history; total pancreatectomy, and gastroenterostomy. Medications hydromorphone 12.5 mg every 5 hours, Fentanyl sub-lingual 800 mcg every 4 hours, Zolpidem 10 mg at bedtime, Lorazepam 1 mg at bed, Duloxetine 60mg at bed, pancreatic enzyme replacement and insulin.

Suspicion for SDB was high so she went for a Level 1 PSG Study, Patient was supine throughout. The PSG study revealed: Very severe sleep apnea. Her AHI was 71 events per hour with Centrals apneas, obstructive apneas, and hypopneas. All associated with cyclic oxygen desaturations.

Patient awakened at 1:41 am and took a spray of her Fentanyl and immediately her Respiratory rate dropped to 10 bpm, central apneas were noted with following severe cyclic drops in SPO2. This case highlights that single dose of opioids can cause acute changes in sleep related respiratory parameters and elevate the risk for OSA, central sleep apnea, hypoxemia and hypercapnia. **CPAP is indicated in OSA, but if there is CSA then Bi-Level or ASV may be the best management.**

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