



# ARTICLE OF THE MONTH

## Perspectives on Dexmedetomidine Use for Neurosurgical Patients

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We welcome you to the October 2019 installment of SNACC's Article of the Month. This month's selection addresses the recent JNA review article about Dexmedetomidine.

Commentary is provided by Dr. Christian Bohringer from the University of California, Davis. Dr. Bohringer is an Australian-trained anesthesiologist who is also board certified in critical care medicine. He has a special interest in neurosurgical, bariatric and ENT anesthesia and has an extensive experience with opioid-free anesthesia and cardio-thoracic anesthesia. He is on the Board of Directors of the California Society of Anesthesiologists.

As always, readers are welcome to join us for further discussion on the [Twitter](#) feed or on [Facebook](#).

~ Nina Schloemerkerper, MD; Amie Hoefnagel, MD; Oana Maties, MD and Shilpa Rao, MD

### Commentary

By Dr. Christian Bohringer

A review article about the use of dexmedetomidine in neurosurgical patients is very timely in light of the current opioid addiction epidemic that is sweeping the United States. Many addicts trace the origin of their addiction back to a hospitalization during which they received opioids during surgery and in the post-operative period. The street value of prescription opioids is now greater than that of heroin.<sup>1</sup> The opioid-sparing effects of dexmedetomidine together with its absence of respiratory depression, hypercarbia and elevation of intracranial pressure make this drug very attractive as a major component of neurosurgical anesthesia.<sup>2</sup> Opioid addiction risk is a significant issue, especially after major spine surgery. When dexmedetomidine is added to other analgesic drugs like

intravenous lidocaine, intravenous acetaminophen, magnesium, ketamine, and gabapentin most surgeries can be performed with minimal use of opioids.<sup>3,4,5</sup>

Recent demographical changes have led to a significant aging of the surgical population in the United States.<sup>6</sup> This makes postoperative delirium a problem that is encountered more frequently than before. Dexmedetomidine has been associated with a significant reduction in postoperative delirium.<sup>7</sup> Its use as an anxiolytic may replace benzodiazepines for this purpose as benzodiazepines are strongly associated with the occurrence of delirium.<sup>8</sup> Dexmedetomidine can also lead to enhanced recovery after surgery as long as it is used to replace opioids and benzodiazepines rather than just being added to a conventional anesthetic regimen composed of these drugs.<sup>9</sup>

This well researched article reviews the role of dexmedetomidine in clinical neurosurgical anesthesia in diverse areas such as cerebrovascular disease, intracranial tumors, epilepsy, deep brain stimulation, traumatic brain injury, spinal cord injury and awake craniotomy. Use in pediatric anesthesia and the neurocritical care unit is reviewed as well. The effects of dexmedetomidine on intraoperative neurophysiology monitoring are also described in detail.

The authors ought to be congratulated on turning the spotlight on this relatively new anesthesia drug that has the potential to significantly improve patient outcomes.

#### References:

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