Evidence-Based Practice Group
Answers to Clinical Questions

Efficacy/Effectiveness of Orexin Antagonists in Treating Insomnia Associated with Traumatic Brain Injury

A Rapid Systematic Review

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Date	February 2024

WorkSafeBC

About this report

Efficacy/Effectiveness of Orexin Antagonists in Treating Insomnia Associated with Traumatic Brain Injury

Published: February 2024

About the Evidence-Based Practice Group

The Evidence-Based Practice Group was established to address the many medical and policy issues that WorkSafeBC officers deal with on a regular basis. Members apply established techniques of critical appraisal and evidence-based review of topics solicited from both WorkSafeBC staff and other interested parties such as surgeons, medical specialists, and rehabilitation providers.

Suggested citation

WorkSafeBC Evidence-Based Practice Group, Martin CW. Efficacy/Effectiveness of Orexin Antagonists in Treating Insomnia Associated with Traumatic Brain Injury. Richmond, BC: WorkSafeBC Evidence-Based Practice Group; February 2024.

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Objectives

- To determine whether there is there any evidence on the efficacy/effectiveness of orexin antagonists class of drugs in treating insomnia associated with traumatic brain injury.

Methods

- A comprehensive and systematic literature search was conducted on February 26, 2024.
- Combination of keywords were employed in this search. These keywords included:
  1. (orexin antagonists) **OR** (orexin receptor antagonists) OR suvorexant OR lemborexant **OR** daridorexant
  2. insomnia **OR** (sleep disturbance*)
  3. (traumatic brain injury)
  4. 1 **AND** 2 **AND** 3
- No limitation, such as on the language or date of publication, was implemented in this search.
- Manual search was also conducted on the references of the literatures that were retrieved in full.

Results

- Search results:
  - Thirteen ([1-13]) published studies were identified from search #4.
  - Upon examination on the titles and abstracts of these 13 ([1-13]) studies, six ([1,5,7,8,10,13]) studies were thought to be relevant and were retrieved in full for further appraisal.
- None of the six ([1,5,7,8,10,13]) studies retrieved in full provided data on the application of orexin antagonists drug class in treating insomnia post traumatic brain injury.

Summary

- At present, there is no study reporting the efficacy/effectiveness of orexin antagonist drug class to treat insomnia among patients diagnosed with traumatic brain injury.

References

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3. Effect of Ketamine on Opioid-Induced Hyperalgesia. 2009. [No additional source data available.].
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5. Intraoperative Ketamine on Chronic Pain After Mastectomy. 2015. [No additional source data available.].
6. Intraoperative Methadone Administration for Improved Pain Control in Spinal Fusion Patients. 2016. [No additional source data available.].
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8. Ketamine for Acute Painful Crisis in Sickle Cell Disease Patients. 2018. [No additional source data available.].
9. Ketamine's Efficiency in the Treatment of Chronic Pain: Kynurenin Pathway. 2018. [No additional source data available.].
10. Ketamine Sickle Cell Disease. 2018. [No additional source data available.].

Appendix 1

WorkSafeBC — Evidence-Based Practice Group levels of evidence (adapted from 1-6)

1	Experimental, randomized controlled trial (RCT), systematic review RTCs with or without meta-analysis.
2	Evidence from controlled trials without randomization (quasi-experimental studies) or systematic reviews of observational studies.
3	Evidence from cohort or case-control analytic studies, preferably from more than 1 centre or research group.
4	Evidence from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments.
5	Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees based on scientific evidence.

References

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