

Intraoperative Dexmedetomidine for Reduction of Postoperative Delirium in the Elderly: A Scoping Review

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Purpose

The purpose of this scoping review is to examine intraoperative dexmedetomidine use to prevent postoperative delirium (POD) in the elderly (>60 years).

Specific Aims:

- Compare the effectiveness of dexmedetomidine to opioids in reducing the incidence of postoperative delirium.
- Determine if the use of dexmedetomidine will decrease the occurrence of delirium in the elderly in the first 48 hours after surgery.
- Determine if the use of dexmedetomidine will result in better patient outcomes in the first 48 hours of the postoperative period.

Background

- Opioid-induced POD is a well-recognized entity leading to increased length of hospital stays, increased hospital costs, and increased morbidity in the elderly.



- Dexmedetomidine is a potential alternative for opioids, as it mitigates cognitive dysfunction secondary to acute pain compared to standard opioid-based analgesia.
- Dexmedetomidine is an alpha-2 agonist, delivering sedative and analgesic properties with fewer negative effects than opioids.
- Compared to opioids, dexmedetomidine decreases the perception of acute pain, enhances chronic pain management, reduces the frequency of POD, and has no addictive or adverse effects.

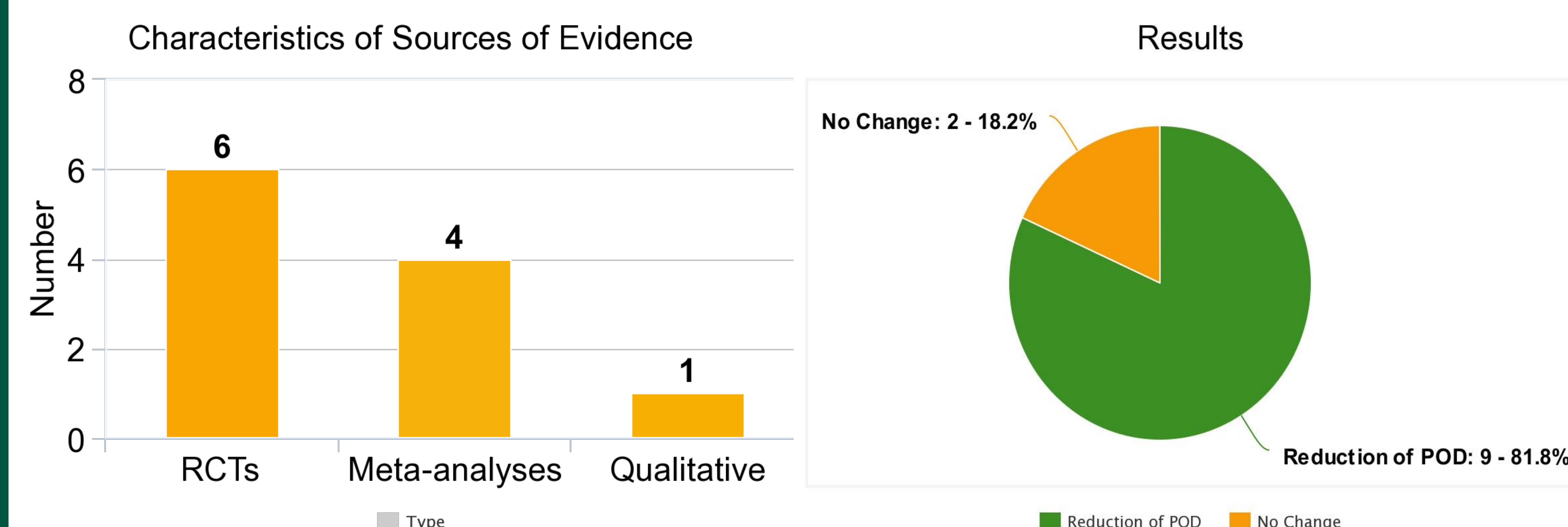
Methods

- **Eligibility Criteria for Articles**
 - Evaluates the efficacy of dexmedetomidine for prevention of postoperative delirium
 - Published in the last 5 years (as of 2019)
 - Peer-reviewed
 - Published in English
 - Abstract included
 - Free access
 - Study subjects 60 years or older
- **The Search**
 - Database search developed with assistance of the academic librarian from November 1 to November 15, 2019.
 - PubMed, CINAHL, PsychINFO, Google Scholar, and scanning of references
- **Selection of Sources of Evidence**
 - 9,000 sources initially identified
 - Each author selected 5 articles for review by co-authors
 - Created annotated literature tables for easy screening
 - 4 articles excluded; 11 articles included in scoping review
- **Data Charting**
 - Developed data-charting form on Microsoft Word
 - Data items extracted include author(s) of the publication, the year, the country of origin, the study population, sample size, methods/interventions, and key findings relating to the scoping review question

Results

Synthesis of Results

81.8% of the studies advocate for the use of dexmedetomidine in preventing and treating POD and emergence agitation.



Implications for Practice

- Using the confusion assessment method will aid in identifying those at risk for POD.
- Dexmedetomidine mitigates cognitive impairment induced by acute pain, encouraging early ambulation and shortening length of stay.
- Dexmedetomidine decreases the perception of pain by decreasing the release of norepinephrine. Decreased pain leads to decreased usage of opioids.
- Further research is needed with larger sample sizes, proper screening of patients, and inclusion of providers willing to participate with the study's plan of care.



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