TITLE: Safety and efficacy of enteral clonidine use for dexmedetomidine weaning: A Systematic Review and Meta-Analysis

OBJECTIVES: Dexmedetomidine is a centrally acting alpha-2 agonist that is used as a sedative in the intensive care unit (ICU). Weaning off dexmedetomidine can produce withdrawal symptoms, namely hypertension and agitation, that may delay transfer from the ICU. Frequently, enteral clonidine (alpha-2 agonist) is used to prevent withdrawal symptoms, but this weaning is often poorly characterized. The aim of this study is to describe the safety and efficacy of enteral clonidine for dexmedetomidine weaning in pediatric and adult patient populations.

METHODS: PubMed, EMBASE, Medline, Cochrane, and Web of Science were searched through 06/17/2026. Eligible studies included English-language randomized control trials and observational trials with patients receiving enteral clonidine for dexmedetomidine weaning. Case reports and Case series were excluded. Grey literature was searched as well. Study quality will be assessed using the Newcastle-Ottawa Scale (NOS). A mixed-effect meta-analysis will be performed. We will visualize effect sizes across studies with funnel plots and test for publication bias with a Begg and Mazumdar Rank Correlation Test.

RESULTS: Of 474 studies screened, 10 studies met inclusion/exclusion criteria (6 pediatric, 4 adult) for a total of 587 patients (426 pediatric, 161 adult). Four of the included studies included had a protocol for the weaning of dexmedetomidine. Study quality, meta-analysis, and Begg and Mazumdar Rank correlation tests are in progress.

CONCLUSION: Data analysis is in progress. However, there is noted diversity in study population and protocolization of dexmedetomidine weaning and clonidine use.

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