Background: According to the CDC (2017), among working-age adults aged 20 to 64 years, one in 10 deaths resulted from alcoholism, with 2.5 million years of potential life lost. While hospitalized, these patients experience alcohol withdrawal which can be life-threatening. Existing research suggests that the concurrent use of dexmedetomidine (DEX) with benzodiazepines (BZD) improves patient outcomes during alcohol withdrawal, including decreased intubation time, decreased amount of BZD administration, and reduction in alcohol withdrawal symptoms. Protocols at one surveyed healthcare facility did not regularly include the use of DEX.

Objective: The purpose of this study is to determine which of the three prescribed medication regimens had the most effective outcome for the alcohol withdrawal patient within one healthcare institution ICU.

Methods: Electronic Medical Record (EMR) retrospective chart review of adult patients admitted to the CVICU and ICU with alcohol withdrawal to compare CIWA-Ar scores, length of stay (LOC), mechanical ventilator (MV) days, adverse events, and use of restraints/1:1 sitters between groups in a multivariate analysis. These three groups were defined as those patients receiving DEX in addition to BZD, BZD only, or alternative medication therapy only.

Results: Of the 64 CIWA-Ar patients, 5 patients were prescribed DEX in addition to BZD, 45 BZD only, and 14 alternative medication therapy only. The concurrent use of DEX with BZD had the least adverse reactions compared to the other two groups of patients. The physicians only prescribed DEX when patients had high CIWA-Ar scores.

Conclusion: The concurrent use of DEX with BZD presents an effective alternative to traditional medication regimens for alcohol withdrawal. This study highlighted that the CIWA-Ar was not used consistently and appropriately, despite the evidence that is an effective medication. A DEX with BZD protocol will be implemented with re-education of the use of CIWA-Ar as a result of this study.

Title:
Retrospective Review Comparing Three Pharmacological Methods of Treating Alcohol Withdrawal Patients in ICU

Keywords:
Alcohol withdrawal, Evidence-based practice and Medication protocol

References:


Abstract Summary:
Research suggests that the use of dexmedetomidine (DEX) improves patient outcomes during alcohol withdrawal, including decreased intubation time and reduction in alcohol withdrawal symptoms. A retrospective chart review of adult patients in ICU with alcohol withdrawal was completed. It was determined that a DEX evidence-based medication regimen was not regularly implemented.

Content Outline:

1. Introduction
   a. Demographics of alcohol dependence
   b. Number of patients at one facility in one year

2. Medication Regimens
   a. Dexmedetomidine (DEX) as a highly selective α2 agonist
   b. No respiratory depression
   c. Comparison to Clonidine
   d. 
   e. 3. Clinical trials
      i. Benefits
         1. measures of sedation
         2. analgesia

1. delirium
1. mechanical ventilation
2. length of stay

1. Concerns
   1. potential for hypotension and bradycardia
   2. MENDS and SEDCOM trails
2. Conclusion
   1. Need for DEX protocol

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