Psychiatric Outcomes Following Ketamine Administration for Orthopedic Surgical Anesthesia
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Introduction

• What is ketamine and what are the common medical settings in which we see its use?

• Ketamine has different indications and effects in the psychiatric and anesthetic worlds.

• What are the negative side effects seen in its use?

• We looked at its use in orthopedic surgery and observed the psychiatric side effects of various patient populations.

Methods

• This was a retrospective analysis of the TriNetX health database looking specifically at patients undergoing orthopedic surgeries with anesthesia.

• We used CPT codes to identify patients having surgery on various joints/bones including but not limited to spine, shoulder, hip, and knee.

• We then performed four total group analyses between cohorts of patients receiving ketamine and cohorts not receiving ketamine.

• We had three sets of analysis based on age stratification and one ageless: pediatric (<18 years), adult (18–60 years), elderly (>60 years), and a reference analysis of all patients.

• We observed and compared outcomes in the 30-day postoperative period involving diagnoses of various psychiatric-related disorders.

Results

Table 1. Event risk and odds ratio by cohort age.

- Figure 1 contains the odds ratio for each outcome of interest, where numbers <1 indicate a reduced risk and numbers >1 indicating increased risks, and asterisks denoting a statistically significant difference.

- Eleven of 15 outcomes had results for specific events, including cohort size, absolute risk, odds ratio with 95% confidence interval, and p-values are compiled in Table 1.

Conclusions

• Nearly every measured event displayed an increased risk for patients receiving ketamine in at least 2 cohorts.

• Anhedonia and nicotine use were the major outliers.

• There were different major outcomes for different age groups. Considerable differences in the outcomes for pediatric vs. elderly.

• Ketamine should be investigated further in different age groups and with corresponding psychiatric outcomes as current research is still limited.

Implications/Considerations

• In 406,384 patients studied, nearly every measured event displayed an increased risk for patients receiving ketamine as part of their anesthesia.

• Apart from anhedonia, which had a decreased risk of occurrence, every event displayed increased incidence in at least two of the cohorts.

• For all but one event, nicotine use, the significant differences between groups were in concordance with each other.

Disclosures

• I declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.