

Title: ASSOCIATION OF LOW-DOSE KETAMINE USE WITH EMERGENCY DEPARTMENT THROUGHPUT IN PATIENTS WITH ABDOMINAL PAIN

Email: lefontae.mcatee@hcamidwest.com

Authors: LeFontae McAtee PharmD; Austin Wilson MS, PharmD, BCPS; Louis Lipari PharmD, BCPS; Kerra Cissne PharmD, BCPS; Melanie Smith PharmD, MBA, BCPS. Research Medical Center Kansas City, Missouri

Background/Purpose: In 2016, 73% of Emergency Department (ED) visits were related to pain and 8.6% of those cases were due to abdominal pain. Studies have shown that low doses of ketamine can be useful in treating acute pain in the ED. Some studies have also shown that low dose ketamine's short term analgesic effect is as efficacious as low doses of morphine when treating abdominal pain. Ketamine, however is given preferably as an intravenous (IV) infusion to avoid adverse effects, which in turn raises the concern of how it may affect ED throughput. A primary metric of ED throughput is the time to disposition. The sooner the decision is made, the faster a room could be open for new patients. There are currently no studies that compare the disposition time associated with ketamine and opioids in the ED.

Methodology: This retrospective cohort multi-centered study included 115 patients across eleven HCA facilities. Data was queried to produce two reports: patients who received IV ketamine in the ED and patients who received IV opioids in the ED with a chief complaint of abdominal pain from August 2018 to July 2020. Ketamine data was screened for abdominal pain use and if they received a 10mg, 20mg, or 30mg dose. Patients were excluded if there was a documented allergy or adverse drug reaction (ADR) to ketamine or opioids, if they were taking chronic opioids, or if they were less than 18 years of age. Patient demographics and outcomes were abstracted from the data and descriptive statistics were calculated using the Two Sample T-test, Fishers Exact, and Wilcox Rank sum.

Results: Baseline characteristics between the ketamine and opioid groups were similar other than use of haloperidol which predominates in the ketamine group. No difference was found in median time to disposition between ketamine and opioids (152 minutes versus 129 minutes, $p=0.76$). However, patients in the opioid group were admitted more than those in the ketamine group. In addition, it was found that haloperidol was more commonly given with ketamine for acute abdominal pain. There was no difference between groups in patients that were discharged with a prescription for opioids.

Conclusion: In this study the use of ketamine versus opioids in patients with abdominal pain is not associated with a change in time to disposition, however, may lead to decreased admission.

Presentation Objective: Identify the difference in time to disposition between patients who received IV ketamine compared to those who received IV opioids as monotherapy.