Ketamine is a good first-line option for severely agitated patients in the prehospital environment

Recently, my twitter feed came alive with information reporting that a study had been published in AJEM showing that IM ketamine was not a good first-line option for severely agitated patients, and a great deal of associated discussion on various social media forums followed. These discussions started with, and mostly referred back to a post in NEJM associated discussion on various social media forums. These became dangerously acidotic in minutes [9-11], were successfully sedated, and with a clear protocol describing the indications on social media.

The review and subsequent discussions focused on the intubation rate as the evidence that ketamine was not a good option for severe agitation. Apnea after ketamine has been described [2,3] and is a serious concern that cannot be lightly dismissed. This study, however, was an open label single agent observational study, and there is no basis to draw conclusions about what the intubation rate might have been had there been a different agent used or no intervention made, or to compare it to studies of ketamine or other sedatives given in the ED rather than in the prehospital environment [4]. There is a great deal of variation in the etiology and disease course of patients with severe agitation, and the variation in intubation rates is, at the very least, highly influenced by factors unrelated to any agent used to treat the agitation [5-8]. In this study, the most common reason for intubation was “airway unprotected NOS” which is not an adequate description to assign attribution. Furthermore, as described by the authors, the indication for intubation was not part of the study protocol and subject to the decision of the treating physician, which was described as highly variable, with intubation rates ranging from 0 to 100% among individuals treating patients in the study. This variation in clinical decision making can only be indirectly attributed to ketamine, and is a poor measure of the drug’s performance relative to other agents. The most that can be concluded about from this work about the need for intubation after patients received ketamine is that it occurred frequently. It cannot be concluded that intubation occurred more frequently than would have occurred if other agents were used, and that therefore ketamine is not a good first-line agent for severely agitated patients.

The more interesting outcome to me, and the focus of the study from my perspective as a reader, was that severely agitated patients, who can become dangerously acidic in minutes [9-11], were successfully sedated the vast majority of the time in 4 min with a single IM injection. My impression after reading this is that ketamine was demonstrated to be a good first-line agent for profound prehospital agitation, and that we should do further comparative studies using outcomes focused on indications to intubate, adverse events related to respiratory depression from sedatives, and with a clear protocol describing the indications to intubate in order to determine the safest approach to controlling agitation. Previous observational work in this area has shown benzodiazepines to have higher intubation rates than ketamine or antipsychotics, but more research that focuses on the comparative respiratory effects of the treatment of agitation are needed before the conclusions that drew me on from social media can be made.

This made me think how important it is that in this age of quick and easy information dissemination, we take the time to consider the facts at hand and the true findings of scientific work before we draw conclusions from brief social media descriptions, and how careful we need to be about assuming and repeating information about science that isn’t accurate for the sake of convenience and inclusion in the discussion.

References


James R. Miner, MD
Department of Emergency Medicine, Hennepin County Medical Center,
Minneapolis, MN, USA
E-mail addresses: miner015@umn.edu, @JimMiner1.