

AAEM Clinical Practice Statement

Should Ketamine be Used to Treat Prehospital Agitation?

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- Drs. Vilke and Repanshek have disclosed no commercial relationships or conflicts of interest.

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Recommendations:

- 1. Prehospital patients with severe agitation may be considered for treatment.**
- 2. Ketamine is a safe and effective option to treat severe agitation.**
- 3. Ketamine can be safely used to sedate severely agitated prehospital patients.**
- 4. Patient selection is paramount when deciding to use ketamine to treat severely agitated prehospital patients.**
- 5. The assessment and treatment decisions for prehospital patients are the responsibility of EMS personnel under the medical direction of board-certified physician(s), not law enforcement.**

Introduction

Ketamine is a medication that can be utilized in the emergency department and prehospital setting for the sedation of the severely agitated patient. After an incident involving the misuse of prehospital ketamine received attention in the lay press, the safety and appropriateness of the prehospital use ketamine was brought into question. This clinical practice statement will address whether ketamine should be used to treat prehospital agitation.

Executive Summary

1. Should prehospital agitated patients be treated?

There are many types and degrees of agitation encountered in the prehospital setting. In all cases, the first consideration for treatment is verbal de-escalation. If verbal de-escalation is not effective or if there are safety risks due to the patient's agitation, use of sedating medication is an appropriate option to consider. Medication selection, routes, and doses will be determined by the local EMS authority policies and procedures. Additionally, policy and procedure will define which patients can be considered for treatment with sedating medications. When making the decision to treat with sedating medications, factors to consider include the patient's current physiologic status, medical history, current degree of agitation, current safety risk to the patient and prehospital personnel, and transport

times. When verbal de-escalation is not effective in actively severely agitated prehospital patients that place the patient and/or prehospital personnel at a safety risk, treatment with sedating medications may be considered.

2. Is ketamine safe to use for the treatment of agitation?

The literature supports that ketamine can safely be used for sedating severely agitated patients in appropriately monitored settings. The majority of the original studies assessing the efficacy and safety of using ketamine for the treatment of severe agitation were performed in Emergency Department settings. Ketamine has been shown to rapidly reduce the degree of agitation and physical activity, with no significant negative effects to physiological parameters.

As a nonbarbiturate dissociative anesthetic, reports of laryngospasm, hypersalivation, respiratory depression, and apnea have been reported as rare complications from the use of ketamine. Prehospital personnel who are administering this medication need to have the skills and equipment immediately available to manage the airway if needed. Hypertension and tachycardia have also been noted in patients receiving ketamine for procedural sedation.

If ketamine is used for sedation, prehospital personnel should be familiar with ketamine's clinical effects and potential side effects/adverse reactions and how to manage them. Exact dosage should be determined by local EMS protocols and should be within the dissociative dose range.

3. Should ketamine be used for sedating prehospital agitated patients?

Based on the literature, ketamine can safely be used for sedating severely agitated patients in the prehospital setting. The caveat is that patient selection for the use of ketamine is paramount, and appropriate dosing is also important.

There are a number of medications that can be used to treat prehospital agitated patients, including benzodiazepines and first- and second-generation antipsychotics. Use of these medications will be determined by local EMS authority policy and procedures. If ketamine is to be used in the prehospital setting to sedate a severely agitated patient, local EMS policy and procedure should be followed.

Ketamine may be considered for the severely agitated or aggressive patient who is uncontrollably violent with concern for immediate harm to self or others, or if there is concern for life-threatening medical condition which cannot be diagnosed or managed due to agitation. When used for sedating, ketamine has been shown to be safe and effective for use in patients suspected of having severe agitation induced by stimulant drug or alcohol intoxication, as well as trauma patients, including head trauma. If the prehospital patient has a recent history of being severely agitated and aggressive, but at the time of EMS assessment is not acting severely agitated, ketamine should not be used for sedation based solely on the previous history of agitation.

If ketamine or any other medication is used in the prehospital setting for the purpose of sedating, ongoing monitoring of the patient is necessary. Cardiac, blood pressure, oxygen saturation and end-tidal CO₂ monitoring should be utilized as soon as possible after administration of ketamine.

4. Who is qualified to make the assessment for treating agitated prehospital patients?

Often close collaboration between prehospital personnel and law enforcement is necessary to safely control and treat severely agitated patients and should be encouraged. Once an agitated person is safely controlled and the scene is deemed secured by law enforcement, the responsibility of medical assessment and treatment for the patient belongs to the EMS personnel, not law enforcement.

EMS should not treat patients for agitation solely based on the request of law-enforcement officers. Similarly, prehospital personnel should not treat patients for agitation solely based on the law enforcement report of recent agitation or struggle.

EMS must make their own independent patient assessment before considering and utilizing medications for sedating. If a patient demonstrates ongoing severe agitation, prehospital personnel can consider utilizing sedating medications, including ketamine, as per their local EMS authority policies and procedures.

After the initial assessment of patients with active severe agitation or a recent history of severe agitation and aggressiveness, ongoing monitoring and frequent reassessment are necessary whether or not sedating medications are utilized.

Conclusion

Ketamine is a safe and effective option to treat the severely agitated patient in the prehospital setting when appropriate patient selection is considered, and treatment decisions are made by prehospital personnel under the direction of board-certified emergency physicians and not law enforcement.

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