

Introduction

- Paramedics are often required to manage violent or combative patients wherein chemical sedation may be required to assess and treat patients safely
- There are currently a number of pharmacologic agents used in the pre-hospital setting for sedation with a paucity of evidence as to the optimal agent
- Our previous research showed midazolam had few adverse events (AEs) in the prehospital setting
- However, longer term sequelae during the in-hospital period has not yet been described

Objective

- To determine the efficacy and incidence of AEs following midazolam administration during the first hour of Emergency Department (ED) stay

Methods

- A retrospective chart review from 2 urban centers over a four-year study period (January 2012 – December 2015)
- All cases of combative patients were examined (Figure 1)

Results

- Between January 2012 and December 2015 there were 269 EMS calls wherein the patient was documented as combative, of these 186 (69.1%) received midazolam
- During the first hour of stay, 68 (36.5%) required further sedation and 118 (63.4%) did not (Figure 2)
- A wide range of ED sedation medications were used in this first hour including: diazepam, midazolam, lorazepam, ketamine, propofol, etomidate, haloperidol, olanzepine, quetiapine, loxapine, risperidol, and trazadone
- There was 1 death and 1 AE in the ED
 - However, were deemed to be likely resulting from the underlying pathology (blunt traumatic cardiac arrest) and not due to prehospital midazolam administration
- Average ED length of stay (LOS) was 7.6 hours for all patients
- A total of 82 (44.1%) of patients were admitted to hospital following pre-hospital midazolam
 - Admission services included: Medical (31), Psychiatry (28), Intensive care (19), Surgical (3)
 - Mean in-hospital LOS was 13.1 days

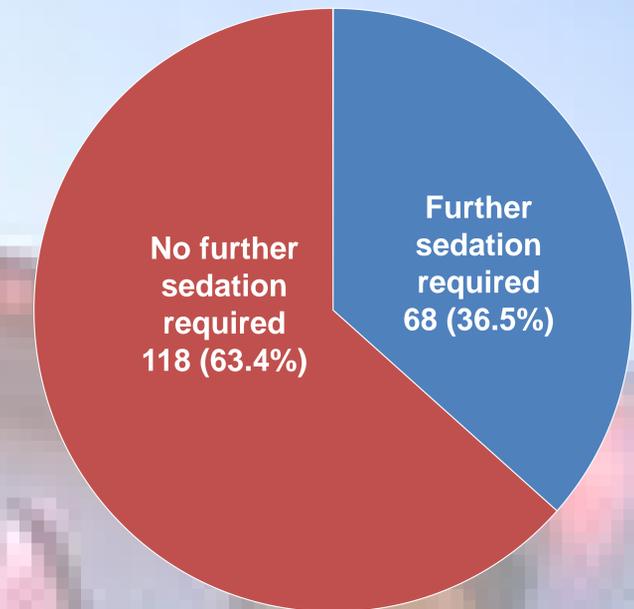


Figure 2. Requirement for further sedation medication administration during the first 1 hour of ED visit, following pre-hospital midazolam administration.

Conclusions

- Pre-hospital use of midazolam for combative patients appears to be safe, with no reported AEs during the first 1 hour of their ED visit
- However, 36.5% of patients required further sedation within the first 1 hour of their ED arrival, signifying a potential incomplete management of the combative patient and compromising healthcare staff and patient safety
- Further research is required to determine the optimal sedation medication for pre-hospital combative patients

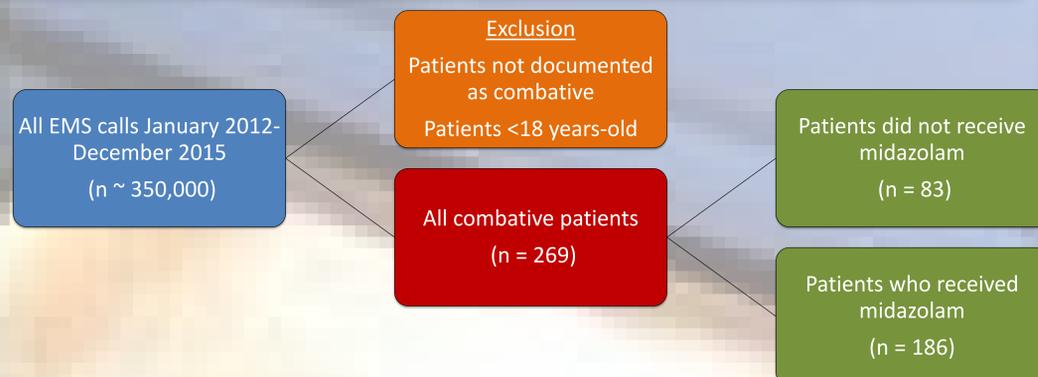


Figure 1. Derivation of the study population. EMS = Emergency Medical Services.

Admitting Services

