

KETAMINE INFUSION IN THE MANAGEMENT OF REFRACTORY STATUS EPILEPTICUS (RSE) IN A METHALDEHYDE INTOXICATED DOG



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INTRODUCTION

Following oral exposure of metaldehyde, acute neurological signs including hyperesthesia, hyperthermia, severe muscle tremors, respiratory depression and seizures, are present. Treatment is mostly supportive, including decontamination procedures, anticonvulsivants therapy and cardio-respiratory support.

Since the 1980s, NMDA receptor antagonists could play a role in the management of RSE. More recently, ketamine, has been used successfully for the management of refractory SE in humans and dogs.

OBJECTIVE

To describe the use of ketamine infusion as an adjunctive therapy for RES, in a dog presented for a severe methaldehyde intoxication.

CASE

A mixed breed, male, 5 years old dog of 6 Kg of weight, was presented in emergency for severe acute a diffuse tremors after a presumptive ingestion of metaldehyde. The dog showed moderate obtundation, heart rate of 180 bpm, respiratory of 70 bpm, red oral mucous membrane, a mean arterial blood pressure of 120 mmHg and a rectal temperature of 39°C. The time of ingestion was not confirmed. Animal was hospitalized and supportive IV therapies was started. After hospitalization, in ICU, dog started to have seizures and intravenous administration of midazolam (2 boluses) at 0.3 mg/kg were so phenobarbital was administered at 5 mg/kg IM. Despite this dog continued to have seizures in cluster: another bolus of phenobarbital at 5 mg/kg IM was ineffective. General anaesthesia was induced with propofol, the animal was intubated and maintained with isoflurane and oxygen. ECG, NIBP and temperature were monitored (Fig 1-2). Despite general anaesthesia, dog continued to show tremors. In order to control seizures with an optimal cardiovascular support, ketamine infusion at 1 mg/kg/h IV was initiated and ET-Iso progressively reduced. After 30 minutes, tremors markedly reduced and vital signs were stable. Anaesthesia was maintained with ketamine infusion at 1 mg/kg/h IV for 8 hours and an enema with active carbon was performed (Fig 3). After 8 hours, ketamine dose infusion was progressively reduced to 0.3 mg/kg/h and continued for 6 hour and the dog was extubated. No more seizures or tremors were observed and the dog recovered uneventfully (Fig 4).



Fig. 1 Dog during anaesthesia: Isoflurane, Ringer lactate at 4ml/kg/h, ketamine CRI at 1 mg/kg/h

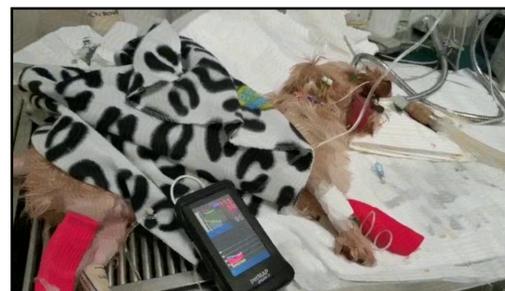


Fig. 2 Dog during anaesthesia: Non-invasive blood pressure was constantly monitored with Pet Map Graphics II®. Mean MAP was 80 mmHg during all time.



Fig. 3 Active Characool at 1 gr/kg diluted in 5ml/kg of warm water, was used as enemas in order to reduce the enteroepathic reabsorption of methaldehyde.



Fig. 4 24h after the presentation, dog presented alert, comfortable and any other seizures occurred. Examination of intracranial nerves revealed a reduction of PRL and menace reaction, but he was able to walk, minimal ataxia was present and dog showed appetite.

UNIQUE INFORMATION

Ketamine infusion is successfully used to control a RSE for the first time in a metaldehyde poisoned dog.