



Ropinirole eye drops induce vomiting effectively in dogs: a randomised, double-blind, placebo-controlled clinical study

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Introduction

Induction of vomiting in dogs is accepted as the first line of action for initial decontamination following ingestion of potentially toxic substances. In cases where rapidly absorbed substances have been ingested, vomiting is most effective within the first 30 minutes. However, there is currently no authorised product available that could be easily and safely administered by an owner in an emergency.

Ropinirole is a full dopamine agonist with high selectivity for dopamine D2-type receptors, which mediate induction of vomiting very readily in dogs. Ropinirole eye drops, which are non-invasive and quickly absorbed, have recently been developed. This study aimed to evaluate the efficacy, safety and usability of these eye drops in inducing vomiting in dogs.

Approach

Ropinirole (target dose 3.75 mg/m²) was applied to the eyes of 100 dogs by their owners, under the supervision of vets. A placebo was applied to the eyes of 32 dogs. If a dog did not vomit after 20 minutes then a further dose was applied.

Time to first vomit, duration of vomiting, number of vomits and the form of vomited material (foam, fluid or solid) were recorded, and the owner-reported usability of the eye drops was also assessed. Local tolerance of the eyes, cardiovascular status and the presence of any other abnormal clinical signs were assessed before dosing and 0.5, two, four and eight hours after.

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KEY FINDINGS

- Ropinirole eye drops were easy to use and provided an effective, safe and reliable means to induce vomiting in dogs.

Results

In all, 95 per cent of the ropinirole-treated dogs vomited within 30 minutes. The median time from ropinirole administration to first vomit was 10 minutes (ranging from three to 37 minutes) (Fig 1). The median duration of vomiting was 16 minutes (ranging from 0 to 108 minutes), and the median number of vomits was four (ranging from one to 13). None of the dogs in the placebo group vomited.

All owners were able to administer the eye drops, and 96 per cent of them assessed the administration to be easy or very easy. A transient increase in heart rate was observed in the ropinirole-treated group. Some ocular signs were seen in both treatment groups, with hyperaemia being the most common. However, all observed signs were transient and, in most cases, mild.

Interpretation

The results demonstrate that ropinirole eye drops are effective in inducing vomiting in healthy dogs, as 95 per cent of the dogs vomited within 30 minutes of receiving ropinirole. For those dogs that did not respond within 30 minutes of the first dose, it was found that the owner did not follow the study protocol precisely and there was some delay in administering the second dose. Overall, the product was well tolerated, and most reported side effects were mild and resolved quickly.

The findings suggest that ropinirole eye drops may expedite the decontamination process, and potentially save the dog's life, by eliminating the need to transport the dog to a veterinary practice for treatment. However, the study did not assess the effects of ropinirole in dogs that had actually ingested a harmful substance because it would not have been ethical to give a placebo to such dogs.

Significance of findings

Ropinirole eye drops were demonstrated to be a rapid and effective way to induce vomiting in dogs, which can be easily and safely administered by owners in emergency situations.

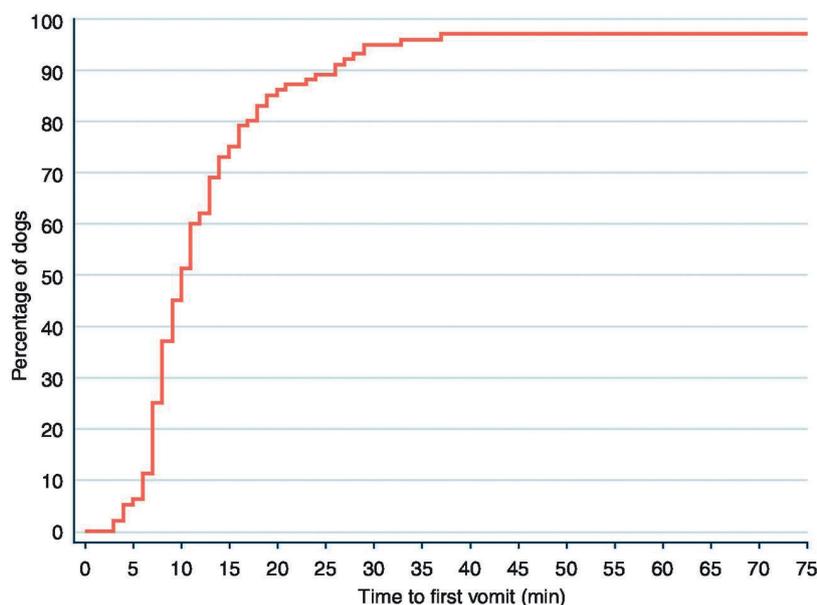


Fig 1: Time from ropinirole administration to first vomit