EFFICACY STUDY OF AN INJECTABLE MAROPITANT FORMULATION IN DOGS

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INTRODUCTION:

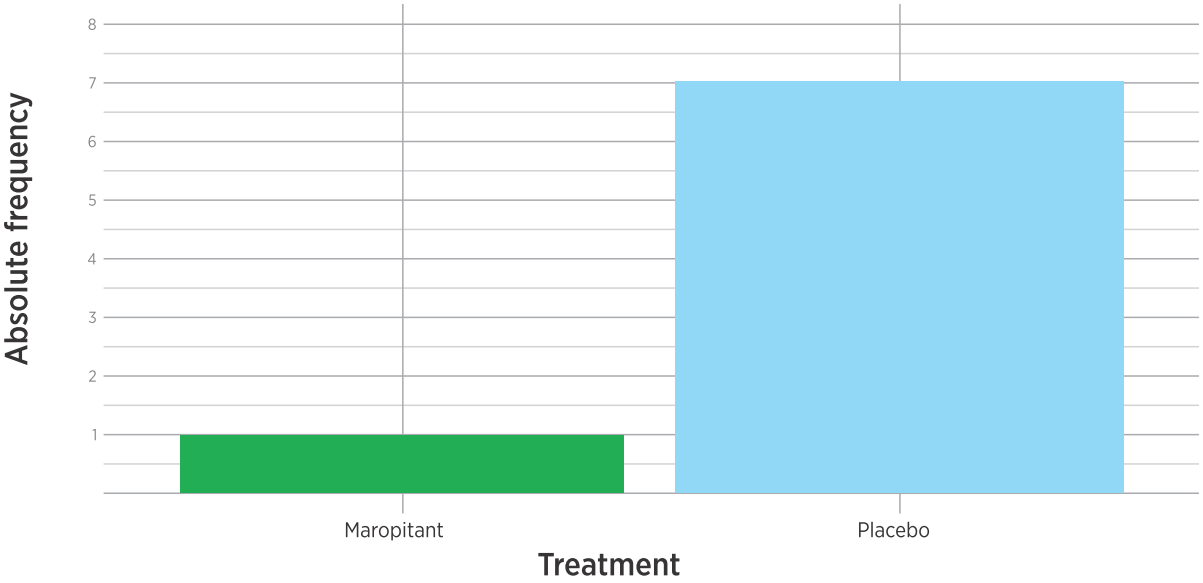
MAROPITANT is a recognized antiemetic in veterinary medicine. Its mechanism of action involves antagonism of the neurokinin-1 (NK-1) receptor at the level of the medulla oblongata.
The aim of this study was to evaluate the antiemetic efficacy of AVO INYECTABLE (maropitant), administered at a dose of 1 mg/k.l.w. via subcutaneous injection in dogs.

MATERIALS AND METHODS:

Twelve (12) mixed-breed dogs were included in the study: 9 males and 3 females, with a mean age of 3 ± 2.5 years.
Each dog underwent a comprehensive health assessment that included a full clinical examination and laboratory testing, consisting of a complete blood count, biochemical profile, and fecal parasitology. Based on these evaluations, all animals were classified according to the American Society of Anesthesiologists (ASA) physical status classification system and deemed eligible for inclusion in the study.
A 6x2 crossover design was employed over two days, with an 8-day washout period between treatments. Each dog received both treatments (AVO INYECTABLE and CONTROL or PLACEBO) in a randomized order. Regardless of group, all animals were subsequently administered an emetogenic drug with a high incidence of inducing vomiting. This was performed 45 minutes after administration of either AVO INYECTABLE or the placebo.

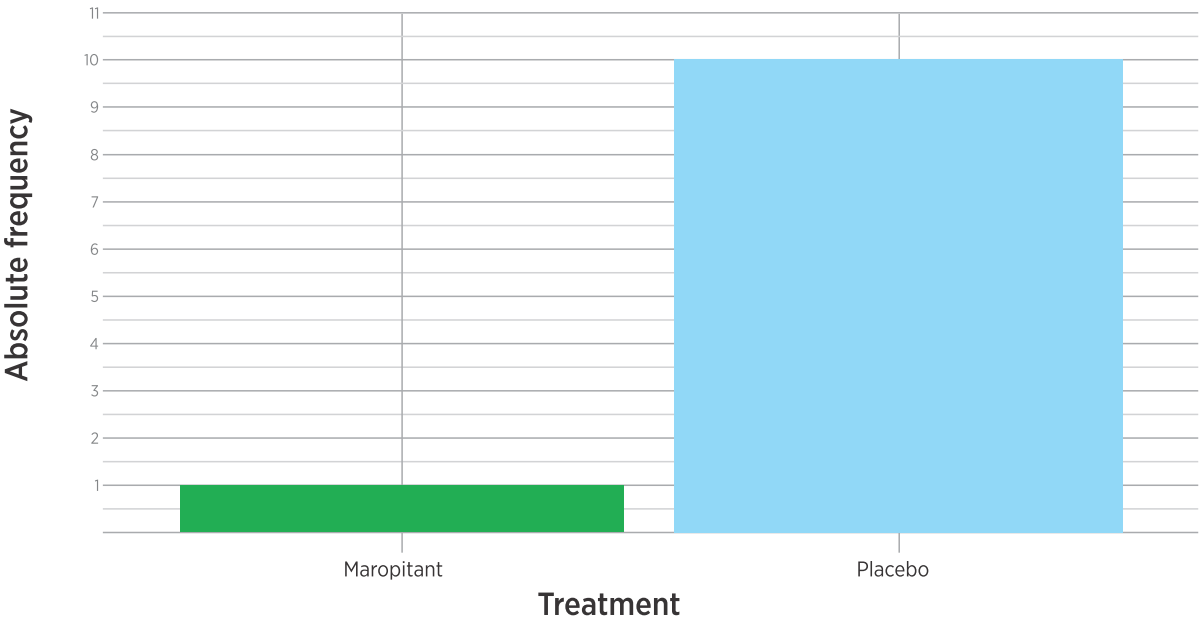
RESULTS:

Administration of AVO INYECTABLE did not produce pain or irritation at the injection site. The following variables were assessed:
Nausea: Maropitant is not effective in preventing nausea; thus, all animals in this trial exhibited signs of nausea.
Retching: AVO INYECTABLE reduced the incidence of retching by 86% compared to the control or placebo group.



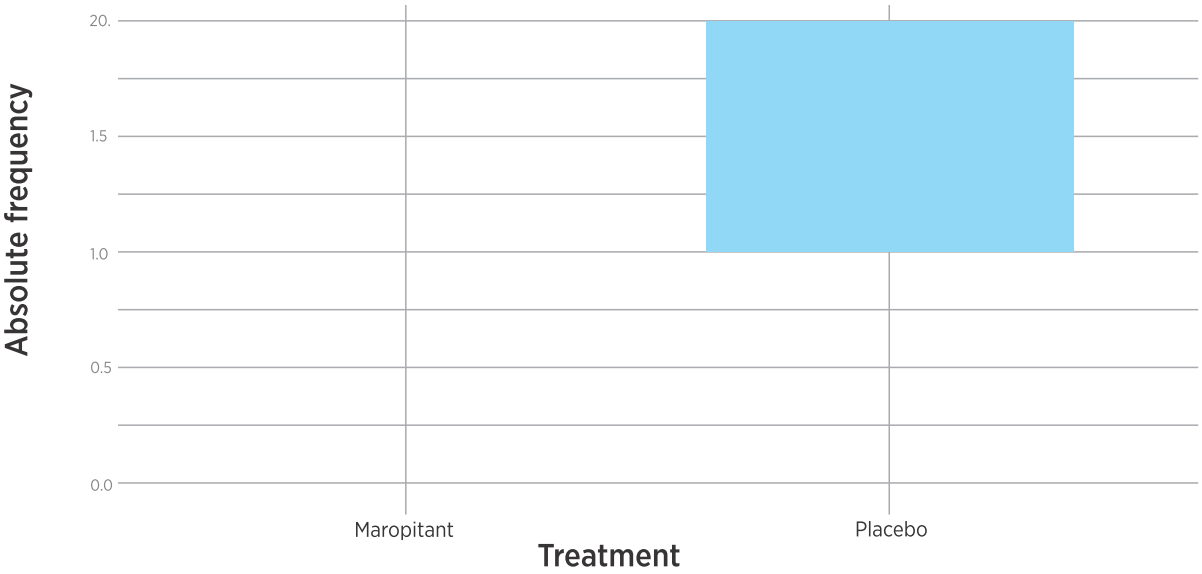
Absolute frequency of retching in dogs treated with AVO INYECTABLE or PLACEBO

Vomiting Frequency: AVO INYECTABLE reduced the incidence of vomiting by 90%.



Absolute frequency of vomiting in dogs treated with AVO INYECTABLE or PLACEBO

Number of Vomiting Episodes per Animal: AVO INYECTABLE was effective, with vomiting recorded in only one (1) dog. In the control or placebo group, 40% of dogs experienced two (2) episodes of vomiting, and 60% had one (1) vomiting episode.



Number of emetic events per animal treated with AVO INYECTABLE or PLACEBO

Table: Observed effects in canines (n=12) treated with saline solution (placebo) or AVO INYECTABLE (1 mg/k.l.w. – SC) 45 minutes prior to administration of the emetogenic drug.

Variable	Treatment		p-value
	AVO	Placebo	
Nausea	12/12 (100%)	12/12 (100%)	-
Retching	1/12 (8,33%)	7/12 (58,33%)	<0,0001
Vomiting	1/12 (8,33%)	10/12 (83,33%)	<0,0001
Nº of vomits/animal	0 (0-1)	1 (0-2)	0,0004

Nausea, retching, and vomiting are expressed as the number of animals that exhibited the event relative to the total sample (relative frequency, %). The number of vomiting episodes per animal is expressed as median (min – max).

CONCLUSIONS:

AVO INYECTABLE was effective as an antiemetic at a single dose of 1 mg/k.l.w. administered subcutaneously. It significantly reduced the incidence of retching, vomiting, and the frequency of vomiting episodes in treated dogs.