

# Effects of oral gabapentin on intraocular pressure following tracheal intubation in clinically normal dogs



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## Purpose

There is a clinical impression that gabapentin (an antiepileptic drug) is a suitable drug which attenuates the intraocular pressure (IOP) elevation associated with tracheal intubation in humans. This study performed to determine the effects of oral gabapentin on IOP following tracheal intubation in clinically normal dogs.

## Methods

Twenty adult healthy dogs randomly assigned to treatment (n=10) and control (n=10) groups. Dogs in the treatment group received oral gabapentin (50 mg/kg) 2 hours before induction of anesthesia and dogs in the control group received oral gelatin capsule placebo at the same time. The dogs were anesthetized with propofol 6 mg/kg, and anesthesia was maintained with a constant infusion of 0.2 mg/kg/min of propofol for 20 minutes. IOP was recorded immediately before induction and then repeated immediately after induction, as well as 5 minutes (T5), 10 minutes (T10) and 15 minutes (T15) following tracheal intubation in both groups.

## Results

IOP was significantly higher immediately after induction ( $27.5 \pm 3.1$ ;  $P < 0.001$ ), and 5 minutes after tracheal intubation ( $25.0 \pm 2.4$ ;  $P = 0.005$ ) when compared with IOP reading before induction ( $21.6 \pm 2.6$ ) in control group.

There was no statistically significant change in IOPs immediately after induction ( $18.6 \pm 1.9$ ;  $P = 0.4$ ), and 5 minutes after tracheal intubation ( $17.4 \pm 1.8$ ;  $P = 0.06$ ) in comparison to the values before induction ( $19.5 \pm 2.2$ ) in the treatment group.

Statistical comparisons between post-induction IOP values of treatment and control groups indicated significant differences immediately after induction ( $P = 0.007$ ), at 5 minutes ( $P_5 < 0.001$ ), 10 minutes ( $P_{10} = 0.03$ ), and 15 minutes ( $P_{15} < 0.001$ ).



## Conclusion

Gabapentin prevents an increase in the IOP associated with tracheal intubation in dogs anesthetized with propofol.