

Gabapentin & Fear in Cats

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In the Literature

Pankratz KE, Ferris KK, Griffith EH, Sherman BL. Use of single-dose oral gabapentin to attenuate fear responses in cage-trap confined community cats: a double-blind, placebo-controlled field trial. *J Feline Med Surg*. 2017. doi:10.1177/1098612X17719399

FROM THE PAGE ...

Trap-neuter-return programs are used extensively for population control among unowned community cats. During trapping and perioperative cage confinement, cats may experience high levels of stress and self-inflicted trauma. Gabapentin, an anticonvulsant used in the treatment of neuropathic pain, has been shown to reduce anxiety in rats and humans.^{1,2} Although gabapentin's anxiolytic properties have not been studied in cats, pharmacokinetics studies have reported excellent oral bioavailability and a wide margin of safety with single-dose administration.³

In a double-blind, placebo-controlled study, the behavior of 53 unowned community cats estimated to be older than 4 months were individually cage trapped, confined, and observed during a regional trap-neuter-return program. Following baseline behavior observation, cats were randomly assigned to receive one of 3 oral suspension treatments: low-dose gabapentin (50 mg/cat), high-dose gabapentin (100 mg/cat), or placebo. During baseline and 1, 2, 3, and 12 hours posttreatment, each cat's stress score, global sedation score, and respiratory rate were determined. Additionally, a facial injury score was assigned at baseline, 12 hours posttreatment, and during sterilization surgery. After 12 hours, cats were anesthetized and underwent sterilization.

Gabapentin doses ranged from 9.2-47.6 mg/kg. Cats receiving either low- or high-dose gabapentin had significantly lower stress scores 2 and 3 hours posttreatment as compared with controls. There were no significant differences between low- and high-dose group stress scores at any time. All 3 groups exhibited a decline in respiratory rate over the 3 hours after treatment. No significant differences in sedation scores were observed

for any group at any time. Facial injuries were observed in all groups and did not vary over time. No adverse events attributable to gabapentin were noted; all cats successfully and uneventfully underwent anesthesia and sterilization surgery. Hypersalivation was observed in 4 cats (placebo, 2; low-dose, 1; high-dose, 1).

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** In cats, single-dose gabapentin (50-100 mg/cat) may result in decreased stress, but not necessarily sedation, 2 to 3 hours after oral administration.
- 2** Gabapentin may be safely administered before anesthesia and routine surgery in healthy patients older than 4 months.
- 3** Oral administration of a liquid suspension of gabapentin is generally well tolerated, although hypersalivation may occur in some patients.

References

1. Singh L, Field MJ, Ferris P, et al. The antiepileptic agent gabapentin (neurontin) possesses anxiolytic-like and antinociceptive actions that are reversed by D-serine. *Psychopharmacology*. 1996;127(1):1-9.
2. de-Paris F, Sant'Anna MK, Vianna MRM, et al. Effects of gabapentin on anxiety induced by simulated public speaking. *J Psychopharmacol*. 2003;17(2):184-188.
3. Siao KT, Pypendop BH, Ilkiw JE. Pharmacokinetics of gabapentin in cats. *Am J Vet Res*. 2010;71(7):817-821.

Suggested Reading

Pypendop BH. Gabapentin. *Plumb's Therapeutics Brief*. <https://www.cliniciansbrief.com/article/gabapentin-0>. Accessed January 2, 2018.