## Detomidine for the Anxious Patient?

To improve tractability of fearful or anxious canine patients, $\alpha_2$-adrenergic agonists have been used parenterally—specifically, drugs with anxiolytic and sedative properties administered noninvasively with minimal restraint. Although a commercially available oral transmucosal (OTM) formulation of detomidine is approved for sedation and restraint in horses, there are currently no reports on its use in dogs, and no $\alpha_2$-agonist has been approved for OTM administration in dogs.

This study evaluated the behavioral and physiological effects of OTM detomidine gel in dogs. Behavioral and physiological assessments of 6 clinically healthy laboratory dogs were performed pretreatment and repeated q15–30min for 5 hours postadministration. Outcome measures consisted of assessments for depth of sedation and scores for global sedation, composite sedation, global anxiolysis, and ease of handling (EH). Dogs were monitored for adverse behavioral events (eg, aggression, paradoxical excitation). Based on pre- and posttreatment assessments, dogs were deemed to be more sedated, less anxious, and easier to handle. All recovered uneventfully despite transient cardiovascular effects. The gel was safely administered, and the dose (0.35mg/m$^2$) resulted in measurable signs of sedation and anxiolysis and improved EH. Results suggested that OTM detomidine gel can offer a novel, efficacious, and safe anxiolytic and sedative option to improve EH and facilitate routine examinations and procedures in dogs.

### Commentary

A common inquiry from general practitioners to veterinary anesthesiologists is how to improve handling of difficult dogs before or during appointments. Already, $\alpha_2$-agonists have shown diverse applications in most domestic species, and an oral form of detomidine (Dormosedan, zoetis.com) is available for horses. In this study, a dose of 0.35 mg/m$^2$ detomidine gel applied to the buccal mucosa produced marked sedation, good anxiolysis, and improved EH. There are 2 cautionary notes to this study: First,

this would be considered extralabel use in dogs. Second, all dogs tested were nonaggressive. It is a well documented problem that animals sedated with $\alpha_2$-agonist tranquilizers during high sympathetic tone can either never fully reach or can override the sedative effects, resulting in excessive degrees of excitement. A higher OTM dose of detomidine was hypothesized to be necessary to produce sedation in fearful or anxious dogs, but this is yet to be determined.—*Andrew Claude, DVM, DACVAA*

### Source

The use of oral transmucosal detomidine hydrochloride gel to facilitate handling in dogs. Hopfensperger MJ, Messenger KM, Papich MG, Sherman BL. *J VET BEHAV* doi:10.1016/j.jveb.2012.10.004

## Tramadol in Parrots

Nine Hispaniolan Amazon parrots (*Amazona ventralis*) were studied to evaluate pharmacokinetics after both PO and IV administration of tramadol hydrochloride to determine what dose would result in plasma concentrations >100 ng/mL (associated with analgesia in this species). Three 10 mg/mL solutions were used for PO administration of 10 and 30 mg/kg doses: solution 1 consisted of crushed tramadol tablets mixed in commercial suspension agent; solution 2 of crushed tramadol tablets mixed in sterile water; solution 3 of unprocessed chemical-grade tramadol hydrochloride powder mixed in sterile water. Plasma concentrations after PO administration of tramadol were <40 ng/mL over the study's course, but PO administration at 30 mg/kg resulted in mean plasma concentrations >100 ng/mL for ~6 hours after administration. PO administration of suspension 3 resulted in higher plasma tramadol concentrations than those obtained after the other 2. Mean plasma tramadol concentrations after IV administration at 5 mg/kg were >100 ng/mL for ~2–4 hours. No sedation, behavior, or eating habit changes were detected. Future studies should examine pharmacokinetics and pharmacodynamics of tramadol in other avian species. In addition, studies examining pharmacokinetic variables after PO administration of repeated tramadol doses could help determine appropriate dosing intervals when multiple-day administration is indicated.

### Commentary

Support for the methodology in this study appeared sound, and simple compounds readily found in the average small animal exotic practice were used and compared with commercial-grade prepared solutions. Comparison studies into other avian species were also highlighted. In addition, this well planned experiment was presented in an easy-to-comprehend layout, which would be clinically useful for practitioners who work with parrots.—*Randon D. Feinsod, DVM*

### Source

Pharmacokinetics after oral and intravenous administration of a single dose of tramadol hydrochloride to Hispaniolan Amazon parrots (*Amazona ventralis*). Guzman DS-M, Souza MJ, Braun JM, et al. *AM J VET RES* 73:1148-1152, 2012.

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