

However, inflammation and excessive salivation caused by gingival disease could affect the absorption of OTM buprenorphine.

The purpose of this prospective, randomized, crossover study was to assess the absorption and effects of OTM buprenorphine in cats with gingival disease. Six adult cats with chronic gingivostomatitis received placebo (saline) and buprenorphine (0.02 mg/kg OTM), with a 24-hour washout period between treatments. Pain scores and food consumption (used as part of the total pain score) were measured 30, 90, and 360 minutes after buprenorphine administration. Significant analgesic effects were noted at 30 and 90 minutes but not at 360 minutes. All 6 cats ate 30 minutes after administration of buprenorphine; only 2 ate 30 minutes after administration of saline. Bioavailability was estimated to be 19.5%, which is lower than OTM bioavailability in cats with healthy oral cavities (28.8%).

### ... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** Although the authors state that peak drug variability was low, the data show concentrations varying from 274 ng/mL to 1621 ng/mL, approximately a 6-fold range in only 6 cats. The variability in a larger clinical population would be expected to be greater.
- 2** Although some of the pharmacokinetic data reported in this paper were inconsistent, this should not affect the clinical applicability of the findings as a whole.
- 3** OTM buprenorphine is a feasible short-acting analgesic (<6 hours) for cats with chronic gingivostomatitis, but IV or IM injection is preferred when appropriate.

### References

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## Research Note: Monoclonal Antibodies for Treatment of Immunosuppressive Cancer in Dogs

Immunotherapy, particularly with regard to cancer treatment, is currently an area of focus in research, but little is known about the function of immune inhibitor molecules in veterinary medicine. In this study, monoclonal antibodies against 2 immune inhibitory receptors (ie, canine programmed death-1 [cPD-1], canine programmed death ligand-1 [cPD-L1]) were identified. These antibodies bound to cells overexpressing cPD-1 and cPD-L1, effectively blocking binding between cPD-1 and cPD-L1. Each antibody was found to have a different blocking ability and a specific functional blockade. These newly generated antibodies may provide a novel approach to treatment of dogs with immunosuppressive cancers.

### Source

Nemoto Y, Shosu K, Okuda M, Noguchi S, Mizuno T. Development and characterization of monoclonal antibodies against canine PD-1 and PD-L1. *Vet Immunol Immunopathol*. 2018;198:19-25.

**These newly generated antibodies may provide a novel approach to treatment of dogs with immunosuppressive cancers.**