Dexmedetomidine Oromucosal Gel for Alleviation of Acute Anxiety and Fear Associated with Noise in Dogs

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Distress, fear, and anxiety during exposure to loud noises (e.g., storms, fireworks) are behavioral and welfare concerns for dogs, and affect up to 50% of dogs over their lifetime. Our objective was to confirm that a sub-sedative dose of dexmedetomidine, an alpha-2 adrenoceptor agonist, alleviates acute anxiety and fear associated with noise in dogs.

This randomized, double-blind, placebo-controlled, parallel-group study was conducted at 17 sites in 2 European countries on New Year’s Eve. One hundred and eighty-two dogs with a history of anxiety or fear due to fireworks received 125 μg/m² dexmedetomidine as an oromucosal gel (89 dogs) or placebo (93 dogs). Owners applied the first dose before or at the onset of distress associated with fireworks. Dosing could be repeated up to 4 times, every 2 hours. Owners assessed treatment effect and dog’s behavior. They also reported oral mucosal color, observational and functional alertness, adverse events, and ease of use. An excellent or good treatment effect was seen in 64 (72%) dexmedetomidine-treated dogs and in 34 (37%) placebo-treated dogs. The overall treatment effect was superior with dexmedetomidine (p < 0.0001). Dogs on dexmedetomidine displayed less panting, trembling, and hiding. Transient pale mucous membranes were observed more frequently with dexmedetomidine, but no mucosal irritation was reported. Most dogs (82/89, 92%) remained functional and no adverse events of concern were observed. Most owners (154/182, 85%) considered the product very easy or quite easy to use.

This study confirms that oromucosal dexmedetomidine at a sub-sedative dose alleviates acute anxiety and fear associated with noise in dogs.