

## On Topic: Cyclosporine Options

Oral cyclosporine A (CsA), while efficacious when used to treat canine atopic dermatitis (AD), can be costly and associated with toxic effects, especially with chronic use. This trial evaluated a novel topical preparation of 2.5% CsA intended for moderate and severe nonseasonal AD in dogs ( $n = 32$ ). Chitosan nanocapsules were used as a mucoadhesive, creating a film on the skin that allowed the lipophilic drug to penetrate. All dogs were treated q12h for 6 weeks with either CsA ( $n = 17$ ) or placebo ( $n = 15$ ). Investigators rated erythema, lichenification, and excoriation in selected skin lesions on days 0, 21, and 45. Owners were asked to rate severity of pruritus at these times. AD severity scores were significantly lower than baseline for topical CsA dogs, and

most owners reported good response after 2 weeks of treatment. The study's topical CsA formulation effectively treated AD, was well tolerated, had a relatively quick onset, and lacked the significant adverse effects of traditional oral preparations, although more investigation is needed.

### ■ Commentary

The goal of AD treatment is to balance clinical response with financial and medical cost and to minimize systemic steroids that atopic patients receive. Topical therapies are appealing because the drug is applied where needed, avoiding some of the adverse systemic effects. Topical steroids and oral CsA are effective but topical steroids can cause skin atrophy if overused, and oral CsA has been associated

with GI disturbance. The topical CsA presented here avoids steroids and may be better tolerated than oral CsA.—*William Oldenhoff, DVM*

### ■ ■ Source

Efficacy of a new topical cyclosporine A formulation in the treatment of atopic dermatitis in dogs. Puigdemont A, Brazis P, Ordeix L, et al. *VET J* 197:280-285, 2013.



## FOCUS

## Special Anesthetic Considerations for the Norwich Terrier

Four characteristics may be seen in brachycephalic syndrome: Stenotic nares, elongated soft palate, everted laryngeal sacculles, and tracheal hypoplasia. Typical phenotype includes a severely shortened muzzle, short and wide head, prognathism, and prominent wide-set eyes. Although the Norwich terrier does not share these phenotypic traits, breeders and clients have expressed concern regarding reported breathing difficulty in the breed. This study evaluated 16 Norwich terriers: 12 presented with respiratory noise or apparent respiratory difficulty, and 4 were clinically normal. Standard physical examination included subjective assessment of size of the external nares; evaluation of nasal airflow; soft palate palpation; and auscultation of the larynx, trachea, and lungs. Laryngoscopy was performed to visualize the tonsils, soft palate length, laryngeal sacculles, laryngeal structure, and laryngeal function. Additional imaging studies were performed in some of the

dogs. The study revealed redundant supraarytenoid folds and laryngeal narrowing in 9 of the dogs presented with respiratory signs and 3 of the dogs that were clinically normal. This required a smaller endotracheal tube than would be used in dogs of comparable weight and could result in postanesthetic recovery complications related to airway obstruction. In contrast to other breeds with brachycephalic syndrome that exhibit changes in the nares or soft palate, Norwich terriers appear to have obstruction at the level of the larynx, with narrowing caudal to the vocal fold that decreases luminal diameter. This is presumed to result in airflow obstruction, trauma to upstream tissues, and severe redundancy of supraarytenoid tissue with further airflow obstruction.

### ■ Commentary

Norwich terriers may require their own anesthetic protocol considerations, such as drugs that reduce apnea, antiinflam-

matory medications (eg, steroids) to alleviate postintubation tracheal trauma, and smaller endotracheal tubes. Attention may also need to be placed upon ensuring the dog is extubated after full recovery (ie, in sternal recumbency and chewing the tube). This study also emphasized the importance of not assuming lack of risk for obstruction based on a normal physical examination in a breed with heritable predisposition for airway obstruction.—*Heather Troyer, DVM, DABVP, CVA*

### ■ ■ Source

Upper airway obstruction in Norwich terriers: 16 cases. Johnson LR, Mayhew PD, Steffy MA, et al. *JVIM* 27:1409-1415, 2013.

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