



EBVM

Evidence-Based Veterinary Medicine

Critically appraised topic: cyclosporine

Cyclosporine is a viable alternative to corticosteroids in the treatment of atopic dermatitis.

Clinical question

Is cyclosporine as effective as corticosteroids for the treatment of canine and feline atopic dermatitis?

Clinical bottom line

Cyclosporine is as effective as corticosteroids for the treatment of atopic dermatitis in canine and feline patients. More evidence is available on the comparative efficacy of cyclosporine to corticosteroids in dogs than in cats.

Evidence summary

Search string

- Google scholar: Cyclosporine canine OR feline OR dermatitis cyclosporine comparison feline prednisolone OR corticosteroids OR dermatitis.
- References citing Steffan: Comparison of cyclosporine with methylprednisolone (MP) for treatment of canine atopic dermatitis.
- References citing Olivry: Randomized controlled trial of the efficacy of cyclosporine in the treatment of atopic dermatitis in dogs.

- Article databases: PubMed, Wiley Inter-Science, AVMA journals.

Main results

Treatment with either cyclosporine, prednisolone or MP resulted in significantly lower post-treatment lesion severity and pruritis scores in dogs with atopic dermatitis. Treatment with either cyclosporine or prednisolone resulted in significantly lower post-treatment lesion severity and pruritis scores in cats with atopic dermatitis. Reduction in scores was not significantly different between the cyclosporine and prednisolone (dogs and cats) or MP (dogs only) treatment groups. Tolerability and safety appeared similar. Cyclosporine reduces severity of clinical signs in dogs and cats with atopic dermatitis, and the anti-allergic efficacy is comparable with that of prednisolone (dogs and cats) and MP (dogs only).¹⁻³

Systematic reviews of studies examining the efficacy of various treatments for canine atopic dermatitis found good evidence for recommending the use of both glucocorticoids and cyclosporine for canine atopic dermatitis; that cyclosporine was as effective



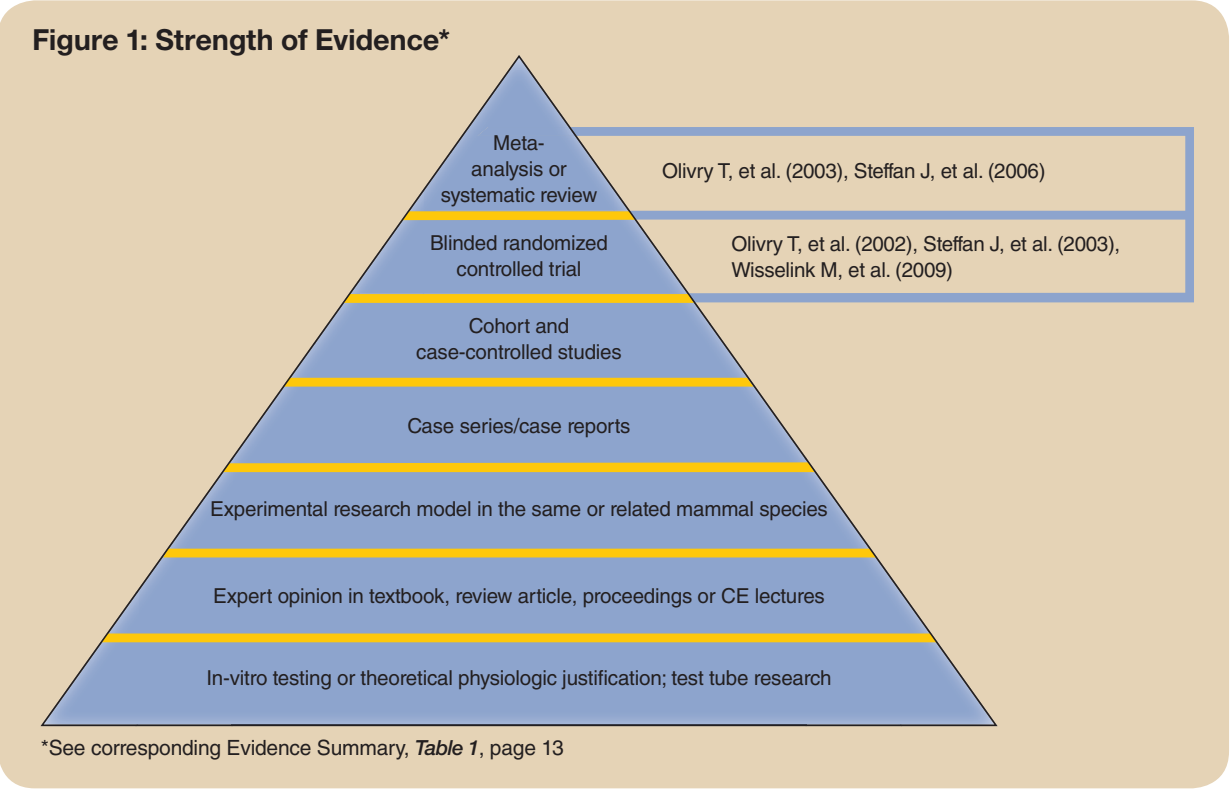
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as glucocorticoids; and that side effects were minimal with both treatments.^{4,5}

ing the cost of a course of treatment for either cyclosporine or corticosteroids.

**Strength of evidence (Figure 1)
Comments**

An adequate number of high-quality studies are available describing the relative efficacy and safety of cyclosporine compared to corticosteroids in dogs, but there are only limited studies in cats.

Response to treatment must be evaluated on a case-by-case basis; patients that do not respond to one treatment may respond to another, or to a combination of treatments.

The efficacy of combination treatments may surpass the efficacy of individual treatments; however, it was not the aim of this review to appraise these studies.

Clinical efficacy is only one aspect in the selection of an appropriate treatment regimen, as treatment cost and compliance of both the client and patient will affect which treatment is selected.

There was no literature available assess-

CAT appraiser: Patrick Shearer, BVMS, PhD

Date CAT was "born"/expiration date: 07/29/2009.

References

1. Olivry T, et al. Randomized controlled trial of the efficacy of cyclosporine in the treatment of atopic dermatitis in dogs. *J Am Vet Med Assoc.* 2002;221(3):370-377.
2. Steffan J, et al. Comparison of cyclosporine A with methylprednisolone for treatment of canine atopic dermatitis: a parallel, blinded, randomized controlled trial. *Vet Dermatol.* 2003;14(1):11-22.
3. Wisselink M, Willemsse T. The efficacy of cyclosporine A in cats with presumed atopic dermatitis: A double blind, randomised prednisolone-controlled study. *Vet J.* 2009;180(1):55-59.
4. Olivry T, Mueller R. Evidence-based veterinary dermatology: a systematic review of the pharmacotherapy of canine atopic dermatitis. *Vet Dermatol.* 2003;14(3):121-146.
5. Steffan J, Favrot C, Mueller R. A systematic review and meta-analysis of the efficacy and safety of cyclosporin for the treatment of atopic dermatitis in dogs. *Vet Dermatol.* 2006;17(1):3-16.





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Table 1: Evidence Summary

Study	Methods	Key Findings
Olivry T, et al. (2003)	Evidence-based veterinary medicine (EBVM) systematic review of the efficacy of various products in the treatment of canine atopic dermatitis (AD).	Good evidence for recommending the use of glucocorticoids (GC) and cyclosporine for canine AD.
Steffan J, et al. (2006)	Systematic review of prospective clinical trials published between 2001 and 2005.	The administration of cyclosporine for the treatment of canine AD was found to be as effective as that of GC, and adverse effects were minimal.
Olivry T, et al. (2002)	Blinded, randomized prednisolone-controlled trial. Thirty dogs with nonseasonal AD were randomly allocated to receive oral cyclosporine 5 mg/kg or prednisolone 0.5 mg/kg once daily for six weeks. Skin lesions were graded by clinicians; pruritis was assessed by owners using visual analogue scoring system.	Both treatments resulted in significantly lower post-treatment lesion and pruritis scores. Reduction in scores was not significantly different between the two treatment groups. Tolerability and safety appeared similar. Conclusion was that cyclosporine reduces severity of clinical signs in dogs with nonseasonal AD, and the anti-allergic efficacy is comparable with prednisolone.
Steffan J, et al. (2003)	Multicenter, parallel, blinded, randomized methylprednisolone (MP)-controlled trial. Induction dose (5 mg/kg cyclosporine, 0.75 mg/kg MP) was tapered according to response. Skin lesions and pruritis were scored.	Both treatments reduced lesion and pruritis scores, with a significant difference to pre-treatment scores but no significant difference between groups. Significantly better overall assessment for cyclosporine than MP. Dogs on cyclosporine had more GI disease (mainly vomiting), but dogs on MP appeared more susceptible to infections.
Wisselink M, et al. (2009)	Double-blind, randomized, prednisolone-controlled study. Study followed 29 cats with feline AD, 11 treated with prednisolone (1 mg/kg sid), 18 with cyclosporine (5 mg/kg sid) for four weeks. Skin lesions were graded by clinicians; pruritis was assessed by owners using visual analogue scoring system.	There was significant reduction in pruritis and lesion scores for both treatments, but no difference between groups. No serious side effects were observed. Conclusion was that cyclosporine is an effective alternative to prednisolone.

