

Table 6. The total clinical scores in the active group ($n = 28$) and placebo group ($n = 29$) on days 0, 42 and 84. Data are given as median with 95% CI and total range

		Median	95% CI	Range
Day 0	Active group	33.5	(16.0–49.0)	(7.0–101.0)
	Placebo group	24.0	(17.5–38.0)	(9.0–93.0)
Day 42	Active group	7.5	(4.0–18.0)	(0.0–58.0)
	Placebo group	7.0	(3.0–12.0)	(0.0–80.0)
Day 84	Active group	4.0	(3.0–12.0)	(0.0–65.0)
	Placebo group	6.0	(2.5–10.5)	(0.0–80.0)

Table 7. The use of shampoo and ear-cleanser (expressed as number of times used during the test period) in the active group ($n = 28$) and placebo group ($n = 29$). Data are given as median with 95% CI and total range

		Median	95% CI	Range
Active group	Shampoo	4.5	(1.0–8.0)	(0.0–15.0)
	Ear-cleanser	4.0	(0.0–6.0)	(0.0–24.0)
Placebo group	Shampoo	3.0	(0.5–5.5)	(0.0–35.0)
	Ear-cleanser	2.0	(0.0–3.5)	(0.0–25.0)

(95% CI: 39.9–90.9), respectively. Regarding the individual clinical parameters, there was a statistically significant reduction in all skin lesions, except crusts, in both groups.

Use of shampoo and ear-cleanser

The use of shampoo and the ear-cleanser did not differ significantly between the active and placebo groups, although both were used more frequently in the former (Table 7).

DISCUSSION

The results found in the present study indicate that essential fatty acid supplementation has a steroid sparing effect in dogs with atopic dermatitis. This finding is in accordance with a previous open study, which reported that supplementation with omega-6 and omega-3 dietary fatty acids reduced the prednisolone requirements in eight of 11 dogs with atopic dermatitis.¹⁵ The beneficial effect of borage seed oil and fish oil supplementation in the treatment of canine atopic dermatitis has recently been reported by Harvey.³⁵ Harvey gave the fatty acid supplement as the sole anti-inflammatory treatment, and in considerably higher concentrations than those used in the present study.³⁵ Neither of these earlier studies included a control for the dogs' regular diet. According to Watson,¹² the variability in background fatty acid intake could be at least as great as the level of supplemental fatty acids provided. Hence, in the present study, by feeding both groups of dogs the same basal diet the influence of diet would not bias the outcome of the study.

Most of the previously published controlled studies reporting the efficacy of omega-6 and omega-3 fatty acid supplementation in canine atopic dermatitis have investigated the effect of omega-6 fatty acids at dosages higher than $100 \text{ mg kg}^{-1} \text{ day}^{-1}$. Thus, the dosage of

omega-6 fatty acids provided by the supplement in the present study was relatively low and, due to the dose instructions, also varied between dogs with different body weights. However, the dosage of GLA provided by the supplement is comparable to that provided by the essential fatty acid supplement in an open study evaluating the steroid sparing effect of essential fatty acid supplementation.¹⁵ Conversely, the dosages of omega-3 fatty acids provided by omega-6/omega-3 essential fatty acid supplements in previous controlled studies have generally been low,¹ at least when compared with the dosage of omega-3 fatty acids provided ($66 \text{ mg kg}^{-1} \text{ day}^{-1}$) in a controlled cross-over study, which reported that marine oil supplementation was effective in the treatment of canine allergic pruritus.³⁶ Both the effect of the low-dosage omega-3 supplementation and the importance of the omega-6 : omega-3 ratio in the present study need to be investigated in future controlled studies.

The dry food used as the basal diet in the present study is a complete food marketed as 'a nutritional aid for recurrent struvite urolithiasis'. Its protein content is slightly reduced, and calcium, phosphorus and magnesium are reduced while fat and carbohydrate are increased compared with a 'maintenance' food produced by the same manufacturer. In a 20-kg dog fed according to the manufacturer's suggestions, the estimated daily intakes of LA, GLA, EPA and DHA (based on per cent of dry matter) would be 11 g day^{-1} , $107.1 \text{ mg day}^{-1}$, 15.8 mg day^{-1} and 41 mg day^{-1} , respectively. Apart from GLA, the daily intake of essential fatty acids is comparable to the daily intake of a 20-kg dog fed a 'typical dry food'.¹² The daily intake of GLA is approximately 3.5 times higher in the diet used in the present study than in the 'typical dry food'. Hence, the effect of a basal diet rich in GLA should not be underestimated. The high amount of GLA in borage seed oil³⁷ could be further strengthened by the high GLA content in the basal diet, although other factors in addition to the absolute concentration could be important for the availability of fatty acids.^{38,39}

Results from a previously performed study have indicated a dose-response effect of borage seed oil and fish oil supplementation in the treatment of canine atopic dermatitis.³⁵ Accordingly, the lack of a demonstrable dose-response effect in the present study was somewhat unexpected. However, in the study performed by Harvey,³⁵ the dosages of GLA given were considerably higher ($21 \text{ mg GLA kg}^{-1}$ and $42 \text{ mg GLA kg}^{-1}$) than the dosages used in the present study. Moreover, the number of dogs in each quartile was low and the influence of a certain individual's lack of response to the fatty acid supplementation^{11,15} or lack of owner-compliance could heavily influence the results. Both owner-compliance and the individual response to fatty acid supplementation could have been more closely assessed in the present study by measurement of fatty acid patterns in sera, blood cells and/or the skin. If these parameters had been monitored, subgroup analysis could have been performed in