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Randomized, double-blinded, placebo-controlled pilot study on the effects of topical blackcurrant emulsion enriched in essential fatty acids, ceramides and 18-beta glycyrrhetinic acid on clinical signs and skin barrier function in dogs with atopic dermatitis

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Background – Lipid-based emulsions can be useful for the management of canine atopic dermatitis (cAD). 18-beta glycyrrhetinic acid (GRA), a component of liquorice root, has anti-inflammatory and anti-pruritic effects.

Hypothesis/Objectives – To evaluate the effects of a topical lipid emulsion containing ceramides, fatty acids and GRA on clinical signs of cAD and skin barrier in a randomized, double-blinded, placebo-controlled trial.

Methods – Client owned (n = 45) dogs with nonseasonal, mild/moderate AD, received either treatment or placebo for three months. Skin lesions, pruritus, transepidermal water loss (TEWL) and global assessment (GA) were evaluated.

Results – Fourteen dogs receiving treatment and 14 receiving the placebo completed the study. After one month ≥50% reduction in pruritus was seen in seven of 14 dogs (50%) in the Treatment group, and in two of 14 dogs (14.3%) in the Control group (P = 0.047). After two and three months, significant reduction in pruritus was not seen. For Canine Atopic Dermatitis Extent and Severity Index (CADESI), TEWL and GA, there were no significant findings over time or between groups.

Conclusions and Clinical relevance – The emulsion had some transient beneficial clinical effects. However, it was not effective in controlling pruritus as a monotherapy. Further studies should examine whether owner compliance was a factor in the steady decline of effect on pruritus scores. Further studies evaluating its role as an adjunctive therapy are indicated.

Introduction

Atopic dermatitis (cAD) is a common pruritic skin disease in dogs that requires chronic long-term management.[1] Canine AD results from a combination of genetic and environmental factors. One important aspect of this disease is the efficiency of the skin barrier. Skin barrier defects have been demonstrated in cAD.[2–4] A defective skin barrier facilitates the penetration of allergens and increases the risk for allergic sensitization,[5] and thus substantial interest exists in identifying safe therapies to repair the skin barrier with the final goal of improving clinical signs.[6]

Skin barrier impairment has been linked, at least in part, to decreased cutaneous ceramide content.[7–9] Decrease in certain ceramides in lesional and nonlesional skin of atopic dogs has been linked to increased skin barrier permeability.[9] Topical application of lipid emulsions containing essential fatty acids (EFA) has also been shown to ameliorate skin barrier function and decrease the severity of clinical signs in dogs with AD.[10–13] This type of therapy is considered useful to decrease the severity and frequency of allergic flares.

Pruritus is an important clinical sign of cAD thus topical therapy containing ingredients that could decrease pruritus would be very beneficial. Staphylococcal colonization is also common in AD and secondary infections are known to aggravate the disease. Interestingly, 18-beta glycyrrhetinic acid (GRA), a component of the liquorice root *Glycyrrhiza* spp., has been shown to have antipruritic

Abbreviations: EFA, essential fatty acids; GA, global assessments; TEWL, transepidermal water loss; GAI, global Assessment Investigator; GAO, global assessment by owners; GRA, glycyrrhetinic acid; PVAS, pruritus Visual Analog Score.

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properties in mice[14] and an inhibitory effect on methicillin-resistant *Staphylococcus aureus*.[15] These properties have stimulated interest in this ingredient as a potential topical preparation for the management of human AD. Several clinical trials have confirmed the beneficial effects of GRA in human AD[16–19] as a safe alternative to the use of steroidal preparations and antibiotics.

The purpose of this study was to evaluate the efficacy of a topical lotion composed of blackcurrant oil (rich in alpha-linolenic acid and gamma-linolenic acid), ceramides and GRA, on clinical signs (skin lesions and pruritus) and skin barrier function in dogs with naturally occurring AD. The primary outcome assessed in this study was clinical efficacy as measured by pruritus scores and the effects on dermatitis severity and extent. Secondary outcomes were the noninvasive assessment of skin barrier function as measured by transepidermal water loss (TEWL) and global assessments (GA) by both investigator and owners over the course of 90 days.

Methods

Study design

This study was a prospective, randomized, double-blinded and vehicle-controlled study in privately owned atopic dogs. The study was approved by the Institutional Animal Care and Use Committee. All dogs entered the study with the owners' written informed consent.

Dogs

Inclusion criteria

A diagnosis of nonseasonal AD was a study prerequisite; this was based on suggestive history, compatible clinical signs according to published criteria[20] and exclusion of other pruritic skin diseases that may mimic AD. Diets were not standardized for this study but all dogs had been receiving the same diet for at least six months and no modification was permitted during the trial to minimize changes in dietary fatty acid composition. Flea control (both topical and oral) was permitted if commenced three months prior to the onset of the study. No modification was permitted during the study to minimize confounding factors. Additional topical therapy (e.g. shampoos or conditioners) was not permitted. Dogs with bacterial and/or yeast infections were excluded by physical examination (e.g. no evidence of papules, pustules, epidermal collarettes) and cytological evaluation (e.g. no inflammatory cells or bacteria).

Exclusion criteria and withdrawal times before inclusion

Dogs receiving treatments with glucocorticoids, other immunomodulatory drugs or allergen-specific immunotherapy were excluded from the study. The withdrawal period for topical, systemic and/or depot glucocorticoid treatment was two, four and eight weeks, respectively. The withdrawal period for oclacitinib, and systemic and topical calcineurin inhibitors was two weeks and eight weeks, respectively. If at any time point, a secondary infection developed and/or the severity of the disease warranted rescue therapy, the dog was withdrawn from the study and treated appropriately.

Intervention, randomization and masking

Randomization by assigning numbers and doing a blind hat draw allocated each dog to a Treatment or Control group (ratio 1:1). The treatment was a commercially available product containing a combination of several active ingredients including omega 6 and omega 3 EFA from blackcurrant; ceramide 1, 3 and 6 II, GRA, panthenol, Vitamin E, liquid crystals for improved penetration and octopirox as a broad spectrum antiseptic in an emulsified water and vegetable oil base (Ribes pet Ultra emulsion®, NBF lanes; Milano, Italy). The placebo product consisted of the water and oil base, but lacked the active ingredients. Both products were dispensed in identical bottles and were indistinguishable for appearance, smell and consistency. The clinician and all site personnel, with the exception of the treatment administrator, were masked to the treatment group assignments, as were the owner and the laboratory personnel.

Treatment administration

Treatment was administered topically at home by owners, using a bottle with a spray nozzle placed approximately 7–10 cm from the area, which delivered 0.1 mL of the suspension (which covered 9–16 cm^2), at a dosage of one squirt twice daily for 90 days for each site. The following body areas were treated: concave surface of the pinnae, inguinal, antebrachial and interdigital skin, and axillae. The amount of lotion used for the study was selected based on pilot studies (data not shown).

Study schedule and variables measured

The primary objective of the study was to evaluate the effects of a topical formulation containing ceramides, GRA and EFA, in reducing the level of pruritus and severity of AD lesions. The secondary objective was to evaluate effects of this formulation on TEWL and the GA by both owners and investigator.

Primary outcomes

Pruritus

The severity of the pruritus was assessed using a previously validated[21,22] pruritus Visual Analog Scale (PVAS) ranging from 0 (no pruritus) to 10 (extreme pruritus) by the owner. A good clinical response was defined as ≥50% reduction of clinical parameters from baseline. The percentage of dogs with a decrease of at least 50% of pruritus compared to baseline at various time points was used for statistical analysis.

Skin lesions

The severity of dermatitis was assessed every 30 days for a total of four times (days 0, 30, 60 and 90) using a previously validated Canine Atopic Dermatitis Extent and Severity Index (3rd iteration, CADESI-03) score.[23] A good clinical response was defined as ≥50% reduction of clinical parameters from baseline. The percentage of dogs with a decrease of CADESI-03 scores of at least 50% compared to baseline on days 30, 60 and 90 was used for statistical analysis.

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Secondary outcomes

Investigator and owner global assessment (GA)
At each visit both owner and investigator provided a GA on whether the dog had improved or not and whether the improvement was more or less than 50%. Global assessment was scored as 0 if there was worsening, 1 if no change was noted, 2 if there was <50% improvement and 3 for ≥50% improvement. Therefore, higher scores for GA were indicative of a positive response. Adverse effects were also recorded.

Transepidermal water loss
Transepidermal water loss was measured using a closed-chamber evaporimeter (VapoMeter, Delfin Technologies Ltd; Kuopio, Finland)[24] at an ambient temperature of 20–26°C. Dogs were allowed 30 min to acclimate to the examination room prior to TEWL measurements. The assessments were performed on unclipped skin from the treated body regions on days 0, 30, 60 and 90. All TEWL readings were done in triplicate by the same operator. The mean of the reading for each dog at each time point was used for statistical analysis.

Statistical analysis

For this clinical trial, data were analysed using the per-protocol (PP) approach rather than with the intention to treat (ITT). ITT is not the best method to analyse missing data points because the clinical sign severity indices do not cease to progress after a patient drops out from a study.[25] In the present study, dogs were dropped out because of deterioration of the clinical signs of AD that necessitated treatment interventions not permitted in the study protocol, thus using the last value carried forward for the missing time points was not considered appropriate. Additionally, withdrawing the dogs that did not complete the study should reflect more realistic treatment differences.[26]

Mean values and 95% confidence intervals were calculated for all results. The Kolmogorov–Smirnov test of normality was used for continuous data (TEWL and age; $\alpha = 0.05$). Differences between the two groups (Treatment and Control) at each time point were compared, using the Student's unpaired *t*-test (TEWL) as well as age or the chi-square test (percentage of improvement of CADESI, PVAS and GA scores). Sex was compared using the Fisher exact Test. The percentage of variation in CADESI scores between Day 0 and days 30, 60 and 90, respectively was calculated and statistically analysed using an ordinal data scale from 0 to 2 corresponding to worse or no improvement (0), <50% improvement (1) or ≥50% improvement (2). A repeated measurement ANOVA was used to evaluate the over-time effect (within group) of the TEWL variable followed by the Dunnett's multiple comparison test as *post hoc* analysis. The Friedman repeated measurement was used to evaluate the over-time effect (within group) of the clinical noncontinuous variables (percentage of improvement of CADESI, PVAS and GA variables) followed by the Dunn's multiple comparison test as *post hoc* analysis. *P*-values of <0.05 were considered significant. Statistical analysis was done using GraphPad Prism software (GraphPad Software, Inc.; San Diego, CA, USA).

Results

Animals

Twenty eight dogs with nonseasonal AD completed the study (14 in each group). Of these 14 dogs, eight males and six females were in the Control group and five male and nine females were in the Treatment group. (Figure 1). The average age of the dogs in the control group was 7.3 ± 4.8 years, whereas the average age in the Treatment group was 6.2 ± 3.5 years. There was no difference in age ($P = 0.42$) or sex ($P = 0.45$) distribution between the two groups that completed the study. In the Control group, 21 dogs were enrolled, and four males and three females did not complete the study (33%); in the Treatment group, 24 dogs enrolled, and eight males and two females were withdrawn from the study (42%) within two months.

The most common breeds were beagle (3), pit bull terrier (4), Chihuahua (2) and cairn terriers (4). Other breeds included German shepherd dog (1), pointer (1), Australian cattle dog (1), Maltese terrier (1), collie (1), Italian greyhound (1), great Dane (1), Jack Russell terrier (2), Pekingese (1), English bulldog (1), shiba inu (1) and mixed breed (3).

Dogs failed to complete the study due to a number of different reasons. The most common factor was the development of pyoderma (four in the Control and five in the Treatment group), *Malassezia* dermatitis (two in the Treatment group), loss of follow-up (one in each group), contact allergy unrelated to the lotion (one in the Treatment group), papular eruption in treated areas mainly of the pinnae (two in the Control group) and malignancy (one in the Treatment group). The dogs that developed the papular eruptions were tentatively diagnosed with contact allergy and responded to symptomatic treatment (washing with mild shampoo and topical application of hydrocortisone). It is unknown which ingredient was responsible, but components of the vehicle should be considered.

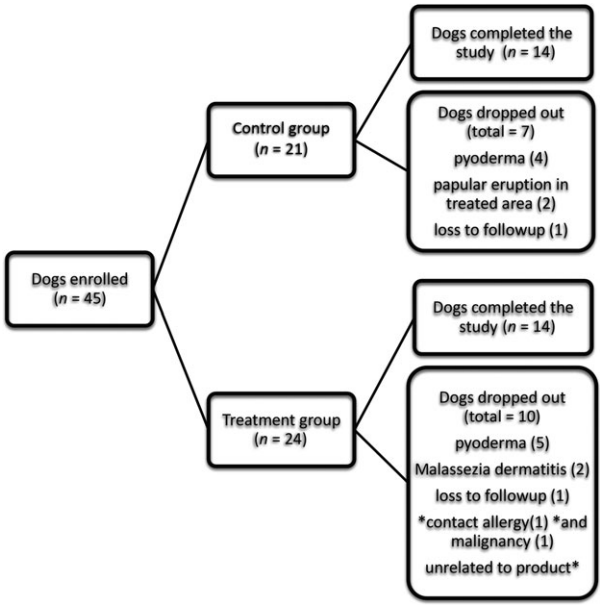
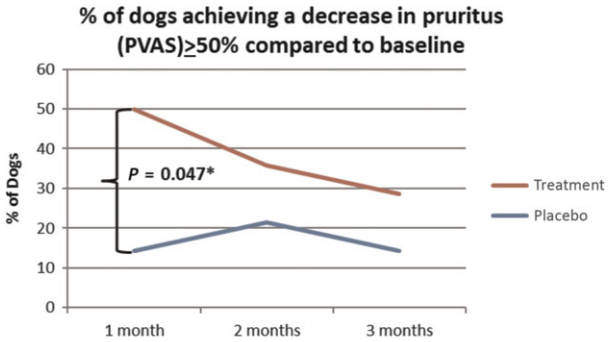


Figure 1. Flowchart illustrating the outcome of dogs enrolled in the study.



50%	35.70%	28.60%	treatment
14.30%	21.40%	14.30%	placebo

Figure 2. Percentage of dogs achieving a decrease of pruritus Visual Analog Score (PVAS) ≥ of 50%.
*Indicates a significant difference between groups, $P < 0.05$.

Primary outcomes

Pruritus

When the over-time values of the PVAS score were analysed in each group, no significant reduction in the scores was seen in either group. After one month ≥50% reduction in pruritus was seen in seven of 14 dogs (50%) in the Treatment group, and in two of 14 dogs (14.3%) in the Control group ($P = 0.047$; Figure 2). After two months, ≥50% reduction in pruritus was seen in five of 14 dogs (35.7%) in the Treatment group, and in three of 14 dogs (21.4%) in the control ($P = 0.411$). At three months ≥50% improvement in pruritus was seen in four of 14 dogs (28.6%) in the Treatment group and in two of 14 dogs (14.3%) in the control ($P = 0.365$). A significant decrease of the pruritus score (5.43 ± 0.59 to 4.11 ± 0.61; $P = 0.131$) was not seen in the Treatment group after 30 days using the mean (±SE). Graphical presentation shows minimum and maximum PVAS scores for the Control and Treatment groups, where for each client the highest and lowest PVAS value and what time they occurred is charted. In the Control group, five of 14 of the minimum scores are at baseline, versus one of 14 in the Treatment group, and in the Treatment group nine of 14 of the score maximums were at baseline versus six of 14 of the control scores (Figure 3). (Table S1 for individual data).

Skin Lesions

Significant differences between the two groups at any time point were not detected for total CADESI scores. When the percentage of variation in the CADESI score at days 30, 60 and 90 were compared with Day 0, no significant differences were seen within each of the two groups (Table S1 for individual data).

Secondary outcomes

TEWL

For the TEWL, no significant changes were detected in any site or any time point. (See Table S2 for individual data).

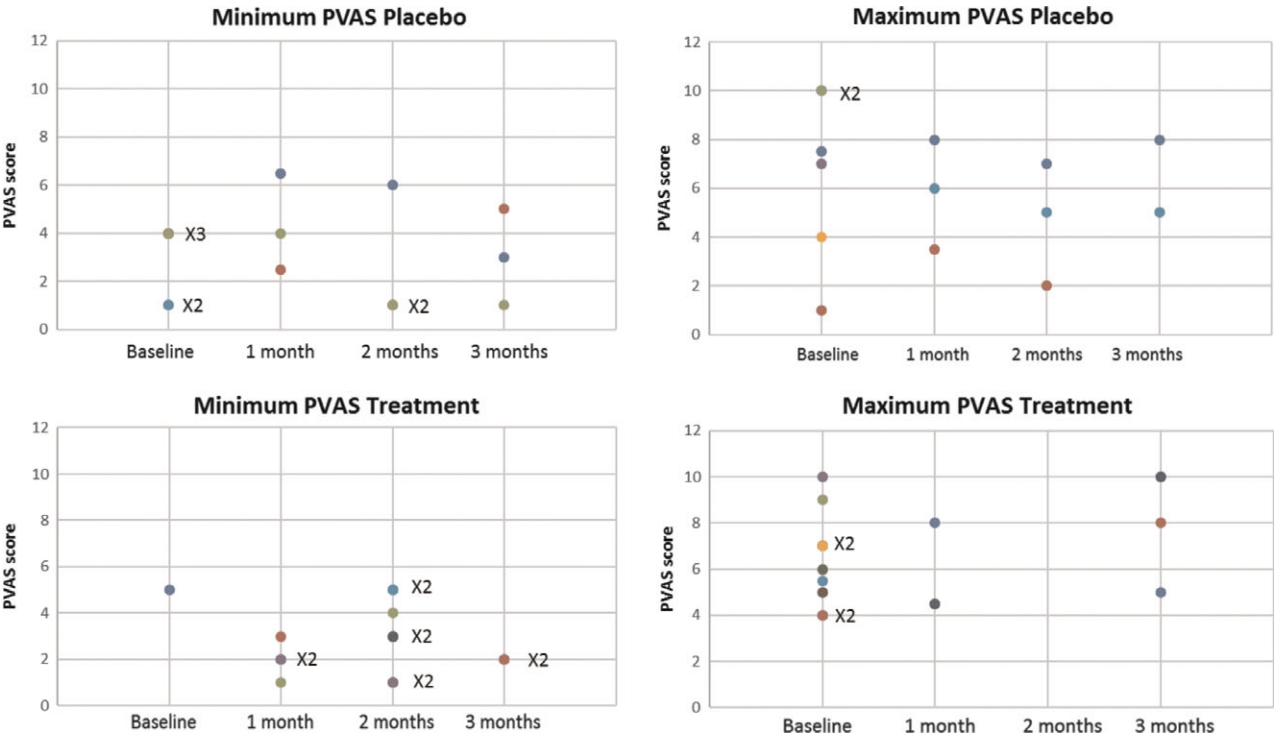


Figure 3. Pruritus Visual Analog Scores (PVAS) of minimum and maximum values and the time they occurred.
Note that in the Control group, five of 14 of the minimum scores are at baseline, whereas only one of 14 in the treatment group is, whereas in the treatment group nine of 14 of the score maximums were at baseline versus six of 14 of the Control scores. ("X" denotes number of values that overlap each other.)

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Global assessment by owners (GAO) and investigator (GAI)

No differences in the GAO or GAI were seen between or within the two groups at any time point ($P > 0.05$). (Table S3 for individual data).

Discussion

To the best of the authors' knowledge, this is the first study evaluating the effects of a combination product containing EFA, ceramide 1 and GRA. Previous studies in atopic dogs have reported the beneficial effect on both clinical signs and skin barrier of various lipid emulsions,[10–13] but no other study has investigated the effects of GRA in atopic dogs. Based on this clinical trial it appears that in dogs there may be a positive effect on pruritus, as reported in mice[14] and humans with AD.[16–19] GRA is a pentacyclic triterpenoid derivative of the beta-amyrin type obtained from the hydrolysis of glycyrrhizic acid, which is obtained from liquorice. The chemical structure of GRA is similar to cortisone and this may be the basis for licorice's anti-inflammatory action, even if its exact mechanism of action is still incompletely understood.[27,28] GRA's mechanism of action may also be linked to the suppression of leukotriene B_4 in the skin.[14] Several studies in human medicine have reported a favourable effect of GRA in atopic patients with mild to moderate clinical signs.[19,29,30] A similar situation may apply to dogs as treatment could be beneficial for milder cases or as an adjunctive therapy, but this hypothesis remains untested.

In the present study, we selected mild to moderate cases of cAD. Our study design did not permit dogs to be bathed with shampoo or conditioners (medicated or not) or the use of rescue medications. Over the three month period, there were no significant effects on CADESI-03 scores between or within the groups. A beneficial effect on pruritus was most evident after 30 days but trended toward similar results as the placebo at days 60 and 90. The exact reason for this is not known. The study ended in the middle of summer and it is possible that this therapy was insufficient to compensate for the increased pollen load present in our geographical location. It is feasible that owner compliance in applying the lotion was a factor; at the end of the study owners complained about twice daily application, difficulty with the bottle spray nozzle, application on long-haired dogs, and not being able to use shampoos and conditioners for 90 days on their dogs. Future studies could focus on the drug-sparing effect of this lotion as combination therapy rather than monotherapy to control the clinical signs of AD in dogs, particularly in a geographical area as challenging as Florida. The advantage of this type of therapy is that it consists of natural ingredients and could be a supplement to decrease the frequency of more labour-intensive shampoo bathing therapy.

The product tested in this study is similar yet different from the commercially available product for people containing GRA. The product used in people is called Atopiclair™ and contains moisturizing elements including hyaluronic acid and shea butter, and anti-oxidants including vitamin C, E and *Vitis vinifera* (grape seed extract). The formulation we studied is composed of EFA, ceramides (1, 3 and 6), GRA, vitamin E and panthenol. These molecules respectively have well known anti-oxidants effects and moisturizing actions.[31]

In terms of skin barrier function, there was no improvement in skin barrier function as measured by TEWL in any measured site. TEWL was selected for this study as it is a commonly accepted methodology for assessment of skin barrier in dogs.[32] Although care was taken to minimize variability by controlling temperature, humidity and using a closed chamber device, the measurement of TEWL in dogs is not a completely reliable methodology. Large variability can decrease the sensitivity of this approach to detect changes in the context of a clinical trial.[33] This methodology was chosen despite these limitations, as it is noninvasive and routinely used as an assessment of skin barrier function. Due to the limitations of TEWL measurements, conclusions cannot be made at this time regarding the effects of this preparation on skin barrier and more studies using other methodologies, such as corneometers to measure hydration of the stratum corneum and the measurement of pH, could improve evaluation of barrier function.

Two dogs in this study (both in the Control group) developed contact dermatitis on the area of lotion application. It is proposed that this may be linked to the vehicle rather than the active ingredient itself. It is our clinical experience that atopic dogs are more prone to the development of contact dermatitis, possibly due to increased epicutaneous penetration of chemicals. In both cases the contact dermatitis was diagnosed by the presence of a papular eruption in the pinnae and occurred in the first month of treatment. Our patients were not re-challenged to confirm that the reaction was due to the product, thus the diagnosis of contact dermatitis was a presumptive one. Our patients were removed from the study, washed and treated topically with hydrocortisone. In our search of the literature we did not find specific reports of contact dermatitis with Atopiclair; it is possible that the reactions are linked to the specific vehicle used for this study, which is different from the vehicle used in the human product.

In terms of GA, neither the owner nor the investigator showed a significant result for the active ingredient group compared to the placebo.

In summary, a combination of EFA, ceramide 1 and GRA may be an option for topical therapy to decrease signs of AD in dogs. Overall this product was tolerated and with improvements in application design, should be tested as adjunctive therapy to increase the comfort level of atopic dogs. Larger studies are needed to assess its effects on skin barrier function.

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Supporting Information

Additional Supporting Information may be found in the online version of this article.

Table S1. Individual results for clinical (CADESI) and pruritus (PVAS) scores including baseline, 1 month, 2 months and 3 months.

Table S2. Individual results for TEWL for pinnae, axilla and inguinal including baseline, 1 month, 2 months and 3 months.

Table S3. Individual results for global Assessment Investigator (GAI) and Owner (GAO) ratings to include 1 month, 2 months and 3 months.

Résumé

Contexte – Les émulsions à base de lipides peuvent être utiles pour la gestion de la dermatite atopique canine. Le GRA (18-beta glycyrrhetinic acid), un composant du bois de réglisse, possède des effets anti-inflammatoires et anti-prurigineux.

Hypothèses/Objectifs – Estimer les effets d'une émulsion topique lipidique contenant des céramides, des acides gras et du GRA sur les signes cliniques de la dermatite atopique (AD) et de la barrière cutanée

dans un essai randomisé en double aveugle, contrôlé contre placébo.
Méthodes – Les chiens de propriétaires (*n*=45) atteint d'AD moyenne/modérée non saisonnière, recevant soit le traitement soit un placebo pendant trois mois. Les lésions cutanées, le prurit, la perte hydrique transépidermique (TEWL) et l'amélioration globale (GA) ont été évalués.
Résultats – Quatorze chiens traités et 14 chiens dans le groupe placebo ont finalisé l'étude. Après un mois, une diminution du prurit ≥50% a été observée pour sept des 14 chiens (50%) dans le groupe Traitement et deux des 14 chiens (14.3%) dans le groupe Contrôle ($P = 0.047$). Après deux et trois mois, aucune diminution significative du prurit n'a été observée. Pour le CADESI (Canine Atopic Dermatitis Extent and Severity Index), la TEWL et l'GA, il n'y avait aucune donnée significative au cours du temps ou entre les groupes.
Conclusions et importance clinique – Cette émulsion possède des effets cliniques bénéfiques transitoires. Cependant, elle n'a pas permis le contrôle du prurit en monothérapie. Des études supplémentaires permettraient de déterminer si l'observance des propriétaires est un facteur de diminution régulière des scores de prurit. D'autres études évaluant son rôle en tant qu'adjuvant sont nécessaires.

Resumen
Introducción – Las emulsiones basadas en lípidos pueden ser útiles para el manejo de la dermatitis atópica canina. El ácido 18-beta glicirretínico (GRA), un componente de la raíz de regaliz, tiene efectos anti-inflamatorios y anti-pruriginosos.
Hipótesis/Objetivos – Evaluar los efectos de una emulsión lipídica tópica con ceramidas, ácidos grasos y GRA en el control de los signos clínicos de dermatitis atópica (AD) y de la barrera cutánea en una prueba clínica al azar, con doble ciego y controlada con placebo.
Métodos – Perros de propietario privado (n = 45) con DA no estacional de leve a moderada, recibieron tratamiento o placebo durante tres meses. Se evaluaron las lesiones cutáneas, el prurito, la pérdida transepidérmica de agua (TEWL) y una evaluación global (GA).
Resultados – Catorce perros en tratamiento y 14 en el grupo placebo completaron el estudio. Después de un mes se observó una reducción ≥50% del prurito en siete de 14 perros (50%) en el grupo con tratamiento y en dos de 14 perros (14,3%) en el grupo control ($P = 0,047$). Después de dos y tres meses, no se observó una reducción significativa del prurito. En el Índice de Severidad y Extensión de la Dermatitis Atópica Canina (CADESI), TEWL y GA, no hubo diferencias significativas a lo largo del tiempo o entre los grupos.
Conclusiones y relevancia clínica – Esta emulsión tuvo algunos efectos clínicos beneficiosos transitorios. Sin embargo, no fue eficaz en el control del prurito como monoterapia. Otros estudios deberían examinar si la aplicación correcta por parte de los propietarios fue un factor en la disminución continua del efecto sobre los valores de prurito. También estarían indicados otros estudios para evaluar su papel como terapia adyuvante.

Zusammenfassung
Hintergrund – Emulsionen auf Lipid-Basis können beim Management der atopischen Dermatitis des Hundes nützlich sein. Die 18-beta Glycyrrhetinsäure (GRA), eine Komponente des Süßholzstrauchs, hat entzündungshemmende und juckreizstillende Wirkung.
Hypothese/Ziele – Eine Evaluierung der Wirksamkeit einer topisch verwendeten Lipidemulsion, die Ceramide, Fettsäuren und GRA enthält, auf die klinischen Zeichen einer atopischen Dermatitis (AD) und der Hautbarriere in einer randomisierten, doppelblinden, Plazebo-kontrollierten Studie.
Methoden – Es wurden Hunde in Privatbesitz (*n*=45) mit nicht-saisonaler, milder bis moderater AD, die entweder drei Monate lang therapiert wurden oder Plazebo erhielten, untersucht. Die Hautveränderungen, der Juckreiz, der transepidermale Wasserverlust (TEWL) und die Gesamtbeurteilung (GA) wurden erfasst.
Ergebnisse – Vierzehn Hunde in Behandlung und 14, die Plazebo erhielten, beendeten die Studie. Nach einem Monat konnte eine Reduktion des Juckreizes von ≥ 50% bei sieben der 14 Hunde (50%) in der Behandlungsgruppe und bei zwei der 14 Hunde (14,3%) in der Kontrollgruppe (*P*=0,047) festgestellt werden. Nach zwei und drei Monaten konnte keine signifikante Reduktion des Juckreizes gesehen werden. In Bezug auf den Canine Atopic Dermatitis Extent and Severity Index (CADESI), TEWL und GA gab es keine signifikanten Befunde in Bezug auf Zeitdauer oder zwischen den Gruppen.
Schlussfolgerungen und klinische Bedeutung – Diese Emulsion hat ein gewisses Ausmaß an günstiger klinischer Auswirkung. Sie war jedoch als Monotherapie nicht wirksam bei der Kontrolle des Juckreizes. Weitere Studien sollten testen, ob die Besitzer Compliance bei der ständigen Abnahme der Wirksamkeit in Bezug auf Juckreizwerte einen Faktor darstellte. Es sind weitere Studien nötig, um die Rolle der Emulsion als zusätzliche Therapie zu bewerten.

要約
背景 – 脂質基質乳剤は、犬アトピー性皮膚炎の治療に有効である可能性がある。18-βグリシルレチン酸 (GRA) は、甘草の根の成分であり、抗炎症作用および抗掻痒作用を有する。

仮説/目的 – 無作為化二重盲検プラセボ対照試験における、アトピー性皮膚炎(AD)の臨床兆候および皮膚バリアに対するセラミド、脂肪酸およびGRAを含む局所脂質乳剤の効果を評価すること。
方法 – 非季節性、軽度/中等度のADを有する飼い犬 (n = 45) が、治療薬あるいはプラセボのいずれかによる治療を 3 ヶ月間受けた。皮膚病変、痒み、経表皮水分喪失 (TEWL) および総合評価(GA)の評価を行った。
結果 – 治療群14頭およびプラセボ群14頭の犬が治験を完遂した。1ヵ月後、治療群では14頭中7頭(50%)で、コントロール群では14頭中2頭(14.3%)で、痒みが50%以上減少した(P = 0.047)。 2, 3ヶ月後、痒みの有意な減少は見られなかった。犬アトピー性皮膚炎の範囲および重症度指数 (CADESI)、TEWLおよびGAについては、時間の経過または群間で有意差は認められなかった。
結論および臨床的な重要性 – 本乳剤は、一過性の有益な臨床効果をある程度有していた。しかし、単剤療法として痒みを抑制するには有効ではなかった。今後の研究では、飼い主のコンプライアンスが痒みスコアへの効果減弱の要因であったかどうかを検討すべきである。本乳剤の補助療法としての効果を評価するさらなる研究が必要である。

摘要
背景 — 脂质保湿剂对于管理犬异位性皮炎有作用。18-β甘草次酸 (GRA) 是甘草根的成分, 具有抗炎和抗瘙痒效果。
假设/目的 — 项随机、双盲和安慰剂对照试验, 用含有神经酰胺、脂肪酸和GRA的脂质保湿剂外部治疗, 评估其对异位性皮炎 (AD) 的临床症状和皮肤屏障效果。
方法 — 私家犬 (n=45) 罹患非季节性、轻度/中度AD,接受治疗或安慰剂三个月。评估皮肤病变、瘙痒、经皮失水量(TEWL)和整体评价 (GA) 。
结果 — 研究中有十四只犬接受治疗,另14只犬接受安慰剂。一个月后,治疗组14只犬中的7只(50%),对照组14只犬中的2只 (14.3%) , 其瘙痒减轻程度≥50%(P = 0.047)。2-3个月后,没有发现明显的瘙痒减轻。在试验全程中,犬异位性皮炎程度和严重性指标 (CADESI), TEWL和GA方面,两组没有明显不同。
结论和临床评估 — 这种保湿剂对症状有一定短暂效果。然而, 做为单独治疗无法控制瘙痒。需要更多研究调查, 主人反馈的瘙痒评分下降是否是稳定因素。需要更多研究证明其做为辅助治疗的作用。

Resumo
Contexto – As emulsões lipídicas podem ser benéficas quando usadas no controle da dermatite atópica canina. O ácido 18-beta glicirretínico (GRA), um componente do alcaçuz, possui propriedades anti-inflamatórias e antipruriginosas.
Hipótese/Objetivos – Avaliar os efeitos de uma emulsão lipídica tópica contendo ceramidas, ácidos graxos essenciais e GRA nos sinais clínicos da dermatite atópica (DA) e barreira cutânea em um estudo randomizado, duplo-cego e placebo-controle.
Métodos – Quarenta e cinco cães de proprietários, com DA atópica leve a moderada, não sazonal, receberam tratamento ou placebo por três meses. Foram avaliadas as lesões cutâneas, o prurido, a perda de água transepidérmica (TEWL) e avaliação global (GA).
Resultados – Quatorze cães em tratamento e 14 com placebo completaram o estudo. Após um mês, foi observada redução do prurido ≥50% em sete dos 14 cães (50%) do grupo de tratamento e em dois dos 14 cães (14,3%) do grupo controle (P = 0.047). Após dois e três meses, não foi observada redução significativa no prurido. Não foram encontradas observações significativas em relação ao CADESI, TEWL e GA, ao longo do tempo, nos dois grupos.
Conclusões e relevância clínica – A emulsão lipídica estudada possui alguns benefícios clínicos transitórios. Entretanto, não foi eficaz no controle do prurido em monoterapia. São necessários mais estudos para avaliar se a adesão dos proprietários foi um fator que prejudicou o resultado no escore de prurido. Recomenda-se a realização de mais estudos avaliando a sua contribuição como terapia adjuvante na dermatite atópica canina.

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