Non-blinded treatment of aural hematoma with oral prednisolone as a monotherapy in privately-owned dogs

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Offene Studie zur Monotherapie des Othämatoms mit oralem Prednisolon bei Hunden aus Privatbesitz

Othämatome sind die häufigsten Erkrankungen der Ohrmuschel des Hundes. Behandlungsmöglichkeiten sind vielfältig, wobei in den letzten Jahren die medikamentöse Therapie häufiger verfolgt wurde als die chirurgischen Optionen. Die Hypothese der vorliegenden Studie war, dass eine einmonatige Monotherapie mit oralem Prednisolon ausreicht, um Hunde mit diagnostiziertem Othämatom erfolgreich zu behandeln.

In dieser offenen prospektiven experimentellen Studie ohne Kontrollgruppe wurden 24 Hunde aus Privatbesitz mit Othämatom durch Kliniker mit 1 mg / kg / Tag po Prednisolon für 14 Tage, gefolgt von 0,5 mg / kg / Tag Prednisolon für weitere 14 Tage behandelt. Bei starken Nebenwirkungen wurde die Dosis bereits nach 7 Behandlungstagen reduziert. Der Erfolg wurde subjektiv nach 14 Tagen durch den Besitzer und nach 28 Tagen durch einen Kliniker oder Facharzt beurteilt. Zusätzlich wurde vor und nach der Behandlung die Dicke der Schwellung gemessen.

Bei 21 von 24 Hunden führte die orale Prednisolonbehandlung über 28 Tage zu einer subjektiven klinischen Besserung von mindestens 80 %. Die Ohrdicke wurde um mindestens 50 % reduziert.

Diese Studie zeigte, dass eine vierwöchige Behandlung von Hunden mit Othämatom mit Prednisolon per os als Monotherapie zu vielversprechenden Ergebnissen führt und als wirtschaftliche, nicht-invasive und sichere Behandlungsalternative für othämatome bei Hunden angesehen werden kann.

Schlüsselwörter: Hund, Othämatom, Prednisolon, orale Behandlung, konservative Behandlung

Summary

Aural hematoma is the most common injury of the pinna in dogs. Treatment options are various. More recently, medical therapy has been more commonly pursued than surgical options. Therefore, our hypothesis was that monotherapy with oral prednisolone for one month is sufficient to successfully treat dogs diagnosed with aural hematoma.

In this open prospective experimental study without control group, clinicians treated 24 privately-owned dogs suffering from aural hematoma with oral prednisolone at 1 mg / kg / day for 14 days, followed by 0,5 mg / kg / day for another 14 days. In case of strong side effects, the dose reduction was already initiated after 7 days of treatment. The success was assessed subjectively after 14 days by the owner and after 28 days by a clinician or specialist. In addition, before and after treatment the thickness of the swelling was measured.

In 21 of 24 dogs, oral prednisolone treatment for 28 days lead to a subjective clinical improvement of at least 80 %. The ear thickness was reduced by at least 50 %.

This study showed that treating dogs suffering from aural hematoma for four weeks with oral prednisolone used as a monotherapy leads to promising results and could be considered as an economical, non-invasive and safe treatment alternative for aural hematoma in dogs.

Keywords: canine, dog, aural hematoma, othematoma, prednisolone, oral treatment, conservative treatment

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Introduction

Canine aural hematoma, also called othematoma, is a common dermatological condition characterized by the accumulation of serosanguineous fluid between the skin of the pinna and the auricular cartilage.[12] This disease may affect one or both pinnae.[9, 19] The pathogenesis is unclear, although several possible underlying causes or predisposing factors of trauma have been proposed. Possible causes are scratching and head shaking. Potential predisposing diseases leading to such trauma are otitis externa or media, inflammatory or neoplastic diseases of the ear canal, ectoparasites, allergic diseases, long pendulous ears, V-shaped ears, endocrinopathies, autoimmune and immune-mediated diseases.[9, 10, 15, 24] Therefore, dogs diagnosed with aural hematoma should undergo thorough dermatological examinations to address the underlying causes to prevent recurrence. If left untreated the pinna will often deform due to formation of granulation tissue and scarring (cauliflower ear), which can be uncomfortable and disturbing for the dog. For these reasons and the fact that the tension in the pinna is painful a treatment is indicated.[1, 5, 9, 10, 11, 15, 25] There are many treatment options and opinions that differ in costs and work intensity.[9, 20] These include surgical treatments, suture methods, drainage systems and fibrin sealant.[2, 3, 8, 18] Moreover, a variety of nonsurgical methods are described including aspiration of the fluid in combination with topical or systemic glucocorticoids, therapy with glucocorticoids or the application of hematophagous leeches.[1, 5, 9, 15, 17, 19, 20, 27] To the best of our knowledge to date no gold standard for treatment has been established.

The aim of this study was to record treatment efficacy of oral prednisolone as a monotherapy in dogs diagnosed with aural hematoma.

Materials and Methods

Between May 2018 and July 2019 client-owned dogs with an aural hematoma presented at two small animal clinics in Switzerland were enrolled following owner consent for this open prospective experimental study. Inclusion criteria were acute or recurrent aural hematoma, as well as willingness of the owner to treat with corticosteroids and to come for a re-evaluation after one month. Exclusion criteria was any pre-treatment of the existing aural hematoma, including puncture or aspiration, instillation, topical or systemic administration of glucocorticoids. However, pre-treatment of the concomitant otitis externa as well as low dose prednisolone (<0,2mg / kg / day) used to control allergies was allowed.

Inclusion was done by either a clinician or a board-certified dermatologist (specialist).

Cases enrolled were treated daily with 1mg/kg/day prednisolone orally for 14 days, followed by 0,5mg / kg / day for another 14 days. In case of severe side effects, see Table 1, the dose reduction was already initiated after seven days of treatment.

At the first visit age, breed, sex and the ear type (erect or pendulous) were recorded. Otitis assessment was done by the responsible clinician according to Nuttal et al.[23] Cytological scores were evaluated by the specialists according to Budach et al at the day of enrolment and again at day 28.[4] Presence of an underlying allergy was assessed by the specialists using standard diagnostic criteria of Favrot and included the exclusion of ectoparasites.[7]

Clinical parameters were assessed including concurrent diseases such as otitis, thickness of the fluid pocket and cytological evaluation of the ear canal. The location of the hematoma or fluid pocket was defined relative to the location at the pinna and termed lateral (lateral side of the pinna), medial (medial side), proximal (base of the pinna) and distal (tip of the pinna). The pruritus visual analogue scale (VAS) was measured, and a concomitant otitis externa was treated according to the clinician's choice. Two weeks after treatment initiation a technician called the owners for a follow up and to ensure that the medication was given according to the protocol and reduced as planned. Owner-assessed improvement (graded as yes or no at this timepoint) and owner-observed side effects were recorded. At the recheck on day 28, prednisolone was stopped without tapering down[16, 28] and the objective treatment success was assessed by a clinician or a specialist and included the assessment of the thickness of the pocket, ear deformation, VAS and cytological evaluation of the ear canal. In order to compare the subjective treatment success with previous studies, the improvement was graded as 20, 40, 60, 80 or 100%.

To assess if some breeds were overrepresented in our study population, we calculated the ratio of the frequency of a specific breed in the study population and the frequency in our clinic population in the same period of time.

A subjective improvement by at least 80% was considered to be successful (Figure 1).

Dogs were followed up in our clinic information systems for a maximum of 1276 days and potential appearance of recurrent aural hematoma was recorded. Owners of dogs still alive were contacted to ask for residual ear deformity.

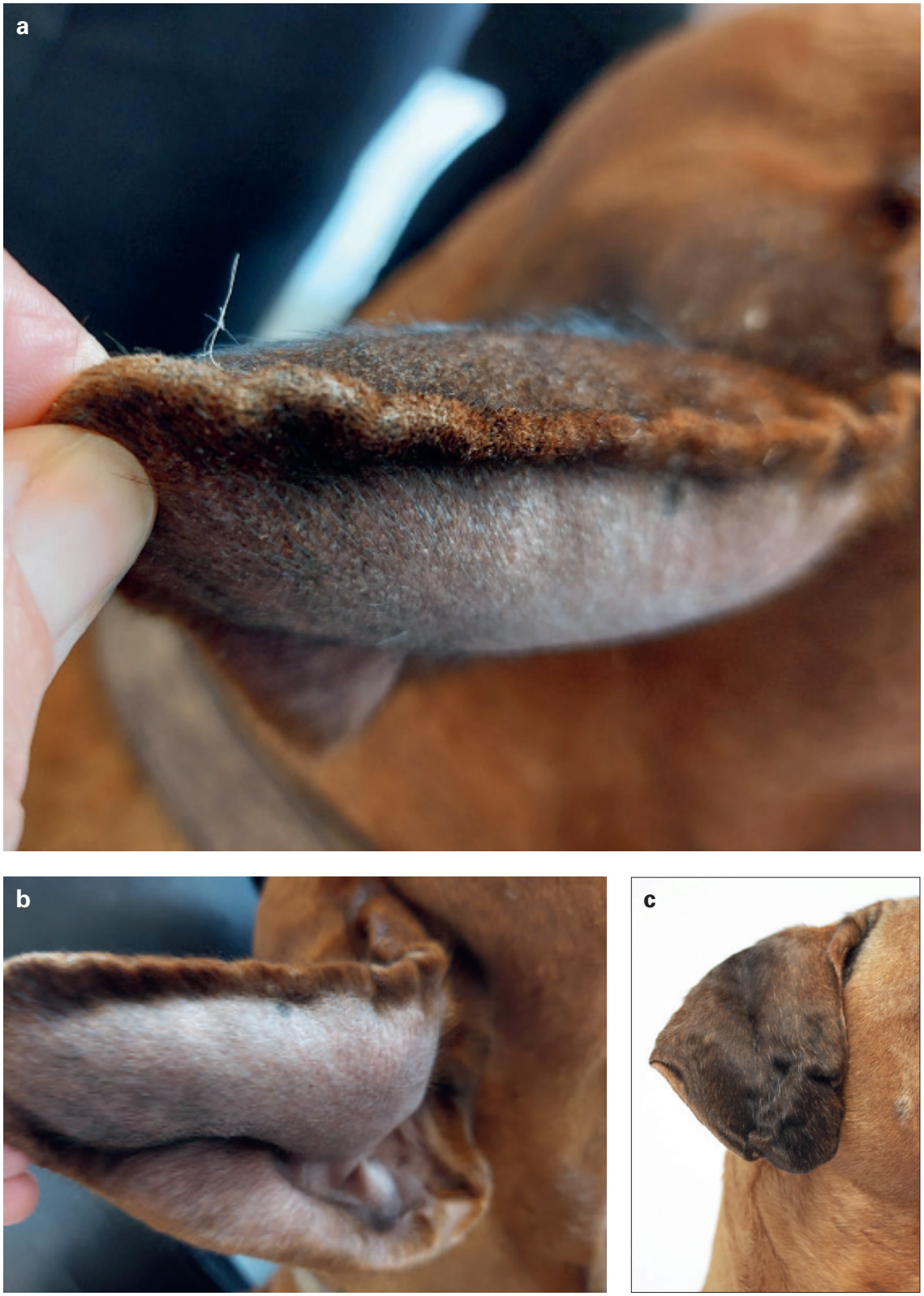

Figure 1: Aural hematoma on the left pinna in a 3,5 year old Rhodesian Ridgeback before (a,b) and after four weeks treatment (c) with oral prednisolone (dog not involved in the study)

Results

Thirty-five dogs met the criteria for inclusion in the study. Eleven dogs were excluded (six dogs with no follow-up, five dogs with severe protocol deviation), resulting in 24 dogs available for analysis.

Six of the 24 dogs were Golden Retrievers (25%), five Labrador Retrievers or Labrador crosses (20,8%), four German Shepherd Dogs (16,7%), four Bernese Mountain Dogs (16,7%), and one of each of the following breeds: Bull Terrier, Japanese Akita, Staffordshire Bull Terrier, Saint Bernard Dog and Nova Scotia Duck Tolling Retriever. In the time period of the study a total of 7282 dogs were presented for a consultation at one of the clinics. Of these, 31 suffered from aural hematoma, resulting in an incidence of 0,42%. To analyse overrepresentation of breeds affected we compared breeds with more than one dog in the study to the general study population. Bernese Mountain Dogs were over-represented by a factor of 11,6, Golden Retrievers by 7,5, German Shepherd Dogs by 5,6, and Labrador Retrievers or Labrador crosses by 3,0.

The signalment of the dogs including the ear type and pre-existing health problems are shown in Table 1 and Table 2, respectively. The median age was 8,1 years (range 1–12 years) at enrolment. Nine (37,5%) dogs were females (three intact and 6 spayed) and 15 (62,5%) were males (five intact, ten neutered).

The time between discovery of the hematoma by the owner and consultation/ diagnosis was one day (n=9), 2–4 days (n=9), seven days (n=3), 10 days (n=1), 28 days (n=1) or 35 days (n=1). One dog was pre-treated with a low dose oral prednisolone (0,16 mg/kg every other day for more than four years) due to atopic dermatitis and one received miconazole, polymyxin B and prednisolone (Surolan®, Elanco Tiergesundheit AG, Switzerland) topically due to pre-diagnosed otitis externa two weeks before.

Thirteen of the dogs (54,2%) shoved a V-shaped pinna, six (25,0%) dogs had erect ears and one (4,2%) a semi erect ear shape and four (16,6%) had pendulous ears. All dogs with pendulous and semierect pinnae showed an improvement of 80% or more. One dog of the V-shaped ears showed an improvement by 70% only and one showed no improvement as did one with erect ears. For 17 dogs it was the first episode of aural hematoma, while seven dogs had previous symptoms of aural hematoma earlier in their life, as reported by the owner. We were unable to determine if the same or contralateral side was previously affected.

Twelve dogs had pre-existing allergies with seven of these showing concurrent otitis externa at the time of aural hematoma diagnosis (Tables 1 and 2). Eleven dogs had clinical signs of otitis externa that were unilateral (n=2) or bilateral (n=9). In all seven dogs, cytology identified *Malassezia* in the affected ear (two of them with +, two with ++, one with +++ and two with ++++). One dog had low (++) and another large (++++) numbers of cocci in the affected ear. In none of the sampled ears we found neutrophils or *Otodectes cynotis*.

Concurrent medications of the dogs are summarized in Table 2.

The dermatological assessment and outcome are summarized in Table 1.

Nineteen dogs (79,2%) showed their symptoms distal of the pinna, two proximal, one lateral and two medial.

Twenty-three of 24 dogs improved clinically per the owner after 14 days of treatment initiation. On day 28 the treatment with oral prednisolone was successful (minimal 80% clinical improvement) in 21 / 24 dogs (87,5%). In addition to this subjectively assessed clinical improvement the thickness of the pinna was markedly reduced and 19 of the 24 dogs had no or very slight visible or palpable scarring (Table 1). At the end of the study three of 24 dogs had no improvement or a relapse. The side effects of the prednisolone therapy, summarized in Table 1, required a dose reduction after seven days in five dogs. These showed a favourable outcome and cessation of side effects after dose reduction. Many dogs were lost for follow-up after the end of the study or were euthanized for other reasons, see table 1. Of the dogs still alive four showed a recurrence in a follow-up period up to 1200 days. No significant change of appearance or deformities of the ear could be observed compared to the recorded shape at the end of the study.

Discussion

Treatment with prednisolone for 28 days resulted in an improvement of aural hematoma in 21 / 24 dogs (87,5%). To the best of our knowledge, this is the first field study in dogs suffering from aural hematoma treated with oral prednisolone for four weeks. All but one dog that finished the study successfully improved already after 14 days. Nevertheless, it must be considered that this early improvement was assessed solely by the owner and reported on the phone. Further studies are needed to evaluate if the treatment of aural hematoma with 1mg / kg / day could be limited to one week before reduction to 0,5 mg / kg / day. The observed treatment success is comparable to different surgical treatment options de-

Table 1: Signalment, pinnal carriage dermatological assessment, side effects and study outcome in dogs involved in a study on aural hematoma treated with oral prednisolone (n = 24). Five dogs required a dose reduction after seven days (*).

Dog	Breed	Age in y	ear-shape	Sex	P-O days	Loc	Thickness of pinna In cm	Clinical otitis*	Cytology	OC day 14	OC day 28+	Thickness of pinna day 28 in cm	Decrease In pinna thickness in cm	Defor-mation	Side effects	Follow-up days	Recurence
1	BMD	10	P	Fn	7	½ dist	2,1	No	M	Smaller	90	0,4	1,7	Slight	None	14, E	No
2	Golden Retriever	11	V	Mn	1	⅔ prox	3	No	None	Smaller	100	1	2	Slight	PP	397, E	No
3	Golden Retriever(*)	9	V	Mn	1	⅔ prox	1,5	No	C	Smaller	100	0,5	1	Slight	PD	1317	No
4	BMD	6	P	Mn	1	⅓ dist	2	No	M	Smaller	100	0,5	1,5	Slight	Lethargy	480, E	No
5	Bull Terrier	10	E	Mn	10	¼ dist	2,3	No	C	Smaller	0	2	0,3	NA	None	487, LFU	No
6	Akita	10	E	Mn	1	¼ dist	3	No	None	Smaller	80	0,5	2,5	Moderate	PU	294, E	No
7	BMD	7	P	Mn	4	½ dist	2	Yes	M	Smaller	100	0,5	1,5	Slight	None	217, E	No
8	Labrador mix(*)	1	V	Fn	1	½ dist	2,5	No	None	Smaller	70	0,4	2,1	Slight	PP, PU, PD	1276	No
9	Labrador Retriever	7	V	M	3	¼ lat	2	Yes	None	Smaller	90	0,5	1,5	Slight	None	1143	Yes, d120
10	GSD(*)	11	E	Mn	0	¼ dist	1	Yes	None	Smaller	90	0,5	0,5	Moderate	Lethargy, urine in-continence	59, E	No
11	Golden Retriever	10	V	Mn	2	¼ dist	3	Yes	Yes	Smaller	100	0,3	2,7	Slight	None	697	No
12	GSD	2	E	F	2	¼ dist	2,1	Yes	M	Smaller	90	0,5	1,6	Slight	None	64, LFU	No
13	Golden Retriever	6	V	Mn	28	¼ med	NA	Yes	None	Smaller	100	NA	NA	Slight	PD	1075	Yes, d235
14	GSD	7	E	Mn	7	¼ dist	1,5	No	None	Smaller	100	0,7	0,8	Severe	None	749	Yes
15	Labrador mix	7	V	M	1	½ dist	NA	Yes	M	Smaller	100	NA	NA	Slight	D	1199	No
16	Labrador mix	8	V	Fn	2	¼ dist	2,0	No	None	Smaller	100	0,4	1,6	Moderate	None	356	No
17	BMD	8	P	M	2	¼ med	2,5	No	None	Smaller	100	0,5	2	Slight	D	38, E	
18	GSD	10	E	Fn	4	¼ dist	2	Yes	None	Smaller	90	0,5	1,5	Slight	D	181, LFU	No
19	SBT(*)	9	SE	Fn	1	¼ dist	3,1	Yes	M	Smaller	100	0,3	2,8	Slight	PU, PD	1055	Yes, d64
20	Golden Retriever	4	V	F	35	½ dist	2	No	None	Smaller	100	0,3	1,7	Slight	None	427, LFU	No
21	St. Bernard(*)	9	V	F	1	½ dist	3,5	Yes	None	Stable	0	3	0,5	Slight	Lethargy, urine in-continence	457	No
22	Labrador Retriever	9	V	M	7	½ dist	2	Yes	M	Smaller	100	0,3	1,7	None	None	948	No
23	Tolling Retriever	12	V	Fn	2	⅓ dist	1	No	None	Smaller	90	0,4	0,6	Slight	None	928	No
24	Golden Retriever	12	V	M	2	½ dist	3	No	None	Smaller	100	0,5	2,5	Slight	Lethargy	422, E	No

This table shows demographic data such as breeds, aged, ear shape, sex. Furthermore, clinical aspects of the affected ear before and after the treatment are shown. Dog IDs correspond to the numbers in table 2.

Abbreviations:
BMD: Bernese Mountain Dog; GSD, German Shepherd Dog; Tolling Retriever: Nova Scotia Duck Tolling Retriever. SBT: Staffordshire Bull Terrier
Earshape: V: V-shaped; E: erect; P: Pendulous SE: semi errect
fn: female neutered, mn, male neutered, f: female, m: male.
P-O: problem onset; Loc: localization; Recur: recurrence
Dist: distal, med: medial, prox: proximal, lat: lateral
M: Malassezia, C: Cocci

*Clinical otitis present at day of enrolment
OC: Outcome.
+: clinical outcome was estimated by the specialist in % of improvement
PP: polyphagia, PD: polydypsia, PU, polyuria, D: diarrhea
E: euthanasia
LFU: lost for follow-up
In the recurrence column the day of recurrence is written

scribed in the literature in combination with or without glucocorticoids. These studies reported a success rate of 70–80% assessing wrinkling, thickening and deformation of the pinna.[6, 9, 18, 20, 25] Treatment with leeches induced a regression of the swelling in 70–100% of dogs but in one study 50% of treated dogs ended with scarring of the pinna.[5, 29]

In our study population half of the dogs had a diagnosed allergy. This prevalence is by far more than the previously estimated prevalence in a normal dog population of 10–15%.[13, 21] A reason for this could be the evaluation by board certified dermatologist that might increase the rate of diagnosed allergy compared to clinicians in the field.

Otitis externa was suspected or diagnosed in eleven dogs, all of which with apparent *Malassezia*, but no bacterial ear infection. Therefore, allergy and otitis externa seem to be pre-disposing factors, which is in agreement with previous studies.[9, 10, 22]

Compared to the clinic population Bernese Mountain dogs, Golden Retriever, German Shepherd Dogs (GSD), Labrador Retrievers or Labrador crosses were overrepresented. This goes in line with the well documented breed pre-disposition of Golden and Labrador Retrievers as well as GSD for atopic dermatitis, which is also a pre-disposing factor for aural hematoma.[5, 14, 22] On the other hand, the breeds specifically predisposed for allergy in Switzerland (West Highland white Terrier, boxer, French

Table 2: Preexisting health problems in dogs involved in a study on aural hematoma treated with oral prednisolone (n = 24)

Dog	Allergy	Other diseases	Medication	Anti-ectoparasitic treatment	Pruritus (VAS)	Episode 1 (I) or ≥2 (M)
1	No	None	None	Fluralaner	0	I
2	Yes	Arthritis	NSAIDs	Fipronil, Methoprene	5	M
3	No	Facial nerve paralysis	None	Fluralaner	0	I
4	No	None	None	None	0	I
5	No	Dental fracture	None	None	NA	M
6	Yes	Epilepsy	Phenobarbital	None	7	M
7	No	None	None	Imidacloprid	2	I
8	No	None	None	Fluralaner	1	M
9	Yes	Epilepsy	Phenobarbital	Fluralaner	2	M
10	Yes	Otitis externa	None	Fluralaner	2,5	I
11	No	None	None	Spot-on (not sp)	0	I
12	Yes	None	None	Fluralaner	4	I
13	No	None	None	Deltamethrin	6	I
14	No	None	Surolan® SID	Fipronil, Methoprene	NA	I
15	Yes	None	Prednisolon 0,16mg/kg EOD	None	7,5	I
16	Yes	None	None	Imidacloprid, Permethrin	7	I
17	Yes	None	ASIT	Deltamethrin	0	I
18	Yes	None	None	Fluralaner	NA	I
19	Yes	None	None	None	0	M
20	Yes	None	Oclacitinib	None	5	I
21	No	None	Eyecream (not sp)	Fluralaner	1	I
22	Yes	None	None	None	0	I
23	No	None	None	Deltamethrin	0	I
24	No	None	None	Imidacloprid, Flumethrin	0	M

Table 2 shows preexisting or accompanying health problems, antiparasitic and other medication used concurrently during the study duration.
NSAID = non-steroidal anti-inflammatory drug
ASIT = allergen specific immunotherapy
I: inital episode. M: multiple (≥2) episodes
EOD: every other day
Not sp: not specified
Surolan® (Elanco Animal Health): Miconazole, Polymyxin B, Prednisolone
NA: not assessed

bulldog, Vizsla, bullterrier and Rhodesian ridgeback) were not overrepresented.[26] Another observation is the overrepresentation of male and neutered male dogs in our study.

In previous studies pendulous ears were discussed to be predisposing for othematoma. According to the new classification of O'Neill et al., four dogs in our study had pendulous ears.[24] Whereas more than half of the dogs (54,2%) had V-shaped pinnae what supports the study done by O'Neill et al that observed V-shaped ears to predispose for the development of an othematoma.[24] Only six dogs presenting with aural hematoma showed erect ears and one semi-erect. However, as in total only three dogs failed to improve by 80% or more, one with erect and two with V-shaped ears, our data cannot indicate if the anatomy of the ear influences treatment success or not.

Many studies evaluating surgical treatment methods are published and show a favourable outcome. Related to the present study, interestingly those with the best outcome injected glucocorticoids locally.[19] Moreover, it should be noted that a large drawback of surgical treatment options is the need for general anaesthesia, infection control, bandage, and removal of the drainage. This is more resource intense and stressful for the owners and their dogs than a conservative medical therapy.[1, 20, 25, 27, 30]

A limitation of our study is the missing negative control group. However, comparing the oral prednisolone treatment with a placebo is ethically problematic considering the previously anecdotal reported positive effects of such treatment. We therefore decided against this. Another limitation is the self-determination of success by the owner after 14 days.

Altogether our data demonstrates that treatment with oral prednisolone for 28 days is an easy, economical, and non-invasive treatment alternative for dogs suffering from aural hematoma, which also prevents the deformation of the pinna in the majority of the dogs.

Ideally, further controlled studies are required to support our findings and allow more definitive treatment recommendations

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Conflict of interest

None of the authors declares a conflict of interest

Non-blinded treatment of aural hematoma with oral prednisolone as a monotherapy in privately-owned dogs

S. Rüfenacht et al.

Traitement sans insu des hématomes auriculaires avec de la prednisolone orale en monothérapie chez des chiens de particuliers

L'hématome auriculaire est la lésion la plus fréquente du pavillon de l'oreille chez le chien. Les options de traitement sont diverses. Depuis un certain temps, la thérapie médicale a été plus souvent proposée que les options chirurgicales. Par conséquent, notre hypothèse était qu'une monothérapie avec de la prednisolone orale pendant un mois est suffisante pour traiter avec succès les chiens souffrant d'un hématome auriculaire.

Dans cette étude expérimentale prospective ouverte sans groupe de contrôle, les cliniciens ont traité 24 chiens privés souffrant d'un hématome auriculaire avec de la prednisolone orale à raison de 1 mg / kg / jour pendant 14 jours, suivie de 0,5 mg / kg / jour pendant 14 autres jours. En cas de forts effets secondaires, la réduction de la dose était déjà amorcée après 7 jours de traitement. Le succès du traitement a été évalué subjectivement après 14 jours par le propriétaire et après 28 jours par un clinicien ou un spécialiste. En outre, l'épaisseur de l'enflure a été mesurée avant et après le traitement.

Chez 21 des 24 chiens, le traitement oral à la prednisolone pendant 28 jours a entraîné une amélioration clinique subjective d'au moins 80 %. L'épaisseur de l'oreille a été réduite d'au moins 50 %.

Cette étude a montré que le traitement des chiens souffrant d'un hématome auriculaire pendant quatre semaines avec de la prednisolone orale utilisée en monothérapie conduit à des résultats prometteurs et pourrait être considéré comme une alternative de traitement économique, non invasive et sûre pour l'hématome auriculaire chez les chiens.

Mots clés: canidé, chien, hématome auriculaire, othématome, prednisolone, traitement oral, traitement conservateur

Trattamento non a cieco con prednisolone orale dell'otoematoma come monoterapia in cani di privati

L'otoematoma è la lesione più comune del padiglione auricolare del cane. Le opzioni di trattamento sono varie e negli ultimi anni la terapia farmacologica è stata preferita più frequentemente alle opzioni chirurgiche. Di conseguenza l'ipotesi del presente studio era che una monoterapia con prednisolone orale della durata di un mese fosse sufficiente per trattare con successo i cani con diagnosi di otoematoma.

In questo studio sperimentale prospettico non in cieco e senza gruppo di controllo, 24 cani di proprietà privata affetti da otoematoma sono stati trattati dai veterinari con 1 mg/kg/giorno di prednisolone orale per 14 giorni, seguito da 0,5 mg/kg/giorno di prednisolone per altri 14 giorni. In caso di effetti collaterali gravi, la dose è stata ridotta dopo soli 7 giorni di trattamento. Il successo è stato valutato soggettivamente dal proprietario dopo 14 giorni e da un veterinario o uno specialista dopo 28 giorni. Inoltre, prima e dopo il trattamento è stato misurato lo spessore del rigonfiamento.

In 21 cani su 24, il trattamento con prednisolone orale per 28 giorni ha portato a un miglioramento clinico soggettivo di almeno l'80 %. Lo spessore dell'orecchio è stato ridotto di almeno il 50 %.

Questo studio ha dimostrato che un trattamento, della durata di quattro settimane nei cani affetti da otoematoma, con prednisolone per os come monoterapia porta a risultati promettenti e può essere considerato un'alternativa di trattamento economica, non invasiva e sicura per l'otoematoma nei cani.

Parole chiave: cane, otoematoma, prednisolone, trattamento orale, trattamento conservativo

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