Dermoscent BIO BALM® efficacy in preventing pedal lesions on sled dogs

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Résumé: Les chiens de traîneau souffrent de douloureuses pododermatites pendant leur saison d'entrainement. L'objectif de ce travail est d'évaluer l'efficacité préventive du Dermoscent BIO BALM® (Lab. Dermo Cosmétique Animale, Castres, F) sur ces lésions. Cinquante deux chiens ont été inclus. Dans le groupe A (22 chiens), toutes les pattes ont été traitées, tandis que dans le groupe B (30 chiens) le traitement ne concernait que les pattes droites (pattes gauches en contrôle) (total: 148 pattes traitées, 60 contrôles). Le baume était appliqué avant et après entraînement quotidien (15-50 km) durant 15 jours consécutifs. L'évaluation de l'érythème/abrasion et des fissures sur toutes les pattes a été réalisée deux fois par jour, aux jours J 1-2 et 15 dans le groupe A et J 1-2, 4-5, 8-9, 12-13 et 15 dans le groupe B. Le logiciel R et le test de Student ont été utilisés pour l'analyse statistique. Pendant l'étude, des érythèmes/abrasions et fissures ont été détectés au cours de respectivement 285 et 43 des 2228 examens réalisés, représentant pour l'érythème/abrasion 7.3% des pattes traitées (versus 14.1% des non traitées) et pour les fissures 0.5% des traités (versus 2.3% des non traités). Le risque global d'érythème/abrasion est significativement réduit par le traitement (Odds Ratio [OR} = 0.2984, *P*-value=1.35e-7) et cette différence s'accentue avec le temps, par exemple entre J5 (OR = 0.0638, *p*=7.41 e-3) et J15 (OR:0.0231, *P*-value= 9.50 e-7). Le traitement réduit également la survenue des fissures (OR= 0.1272, *P*-value=1.43 e-3). Le baume a été très bien toléré par tous les chiens et les mushers ont spontanément signalé la réduction des "snow balls", causes très fréquentes d'irritation podale. BIOBALM® apparait efficace pour prévenir et limiter les lésions podales des chiens en entraînement intensif.

Summary : Sled dogs suffer from painful pododermatitis during training season. The objective of this study is to evaluate the efficacy of Dermoscent BIO BALM® (Laboratoire Dermo Cosmétique Animale, Castres, F) in preventing lesions on footpads. Fifty-two dogs were included. In group A (22 dogs), all feet were treated whereas the treatment was applied on right footpads only (left legs as control) in group B (30 dogs) (total: 148 footpads treated, 60 control). The balm was applied before and after daily running (15 to 50 km) during 15 consecutive days. Evaluation of erythema/abrasion or cracks on all foot pads was made twice daily on days D1-2 and 15 in group A; on D1-2, 4-5, 8-9, 12-13 and 15 in group B. R software was used with unpaired Student's *t*-test for statistics.
During the study, erythema/abrasion and cracks were detected in respectively 285 and 43 out of 2228 feet examined, representing in group B 7.3% of treated (versus 14.1% untreated) for erythema/abrasion, 0.5% of treated (versus 2.3% untreated) for cracks. The overall risk of erythema/abrasion is significantly lowered with treatment (Odds Ratio [OR} = 0.2984, *P*-value=1.35e-7) and this difference increases with time i.e. from D5 (OR = 0.0638, *p*=7.41e-3) up to D15 (OR:0.0231, *P*-value= 9.50e-7). The treatment also reduced the cracks' development (OR= 0.1272, *P*-value=1.43e-3).
The balm was very well tolerated among all dogs and, as mentioned by all mushers, reduced "snow balls", a frequent cause for sled dogs' feet irritations.
Dermoscent BIO BALM® appears effective in limiting feet lesions on sled dogs during intensive training.

Background

- Sled Dogs are sportive animals trained for long runs.
- Pododermatitis frequently induced during competition or training.
- Very limited information or case analysis.

Aim of the study

- To evaluate the efficacy of Dermoscent BIO BALM® in preventing lesions on footpads, induced by training in sled dogs.

Material and Methods:

Dogs included

52 sled dogs from 5 different mushers.

Methods

- Period of study: sequences of testing from November 2018 to March 2019.
- Trial performed on 15 consecutive days.
- Balm (Dermoscent BIO BALM®) applied before and after, daily running.
  - * **Group A** (22 dogs): 11 young (1-2 years) and 11 adult dogs (> 2years). All feet treated.
  - * **Group B** (30 dogs) : Balm applied on right footpads only (left ones as control).
- Evaluation of erythema/abrasion and cracks: all footpads twice daily: **Group A** on Days: 1-2-15.
  Group B on Days: 1-2-4-5-8-9-12-13-15.
- Data collected by mushers on observation books.

Statistics unpaired Student's *t*-test - R Studio software.

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Results:

GLOBAL :

- 165 Balms (Dermoscent BIOBALM®) used; 148 pads treated.
- 2208 observations (1344 treated pads ; 864 untreated pads).
- 328 lesional foot pads during the training (285 erythema/abrasion - 43 cracks).

-**TOLERANCE :** No record of any irritations due to the application.

Group B: See Fig 1 - Fig 2.

- 5 dogs with bilateral lesion present before the study.
- 8/60 (13.3%) treated and 19/60 (31.7%) untreated footpads, developed lesions.
- Erythema/abrasion : 7.3% of treated footpads vs 14.1% untreated.
- Cracks : 0.5% of treated footpads (2.3% untreated).
- 47 (78,3%) treated footpads remained healthy; 36 (60%) untreated footpads.
- Overall risk (erythema/abrasion) significantly reduced with treatment (Odds Ratio [OR} = 0.2984, *P* =1.35 e-7).
- The difference increases with time : Day 5 (OR = 0.0638, *P*=7.41 e-3) up to Day 15 (OR:0.0231, *P*= 9.50 e-7).
- Appearance of cracks reduced (OR= 0.1272, *P*=1.43 e-3).

Group A: See Fig.3.

- 4 adult dogs and 4 young dogs with lesions before the study.
- On day1: erythema/abrasion more frequent on young dogs (5 = 45,5 %) as compared to adult dogs (3 = 27,3 %).
- Under treatment only 1 adult dog had footpads lesions.

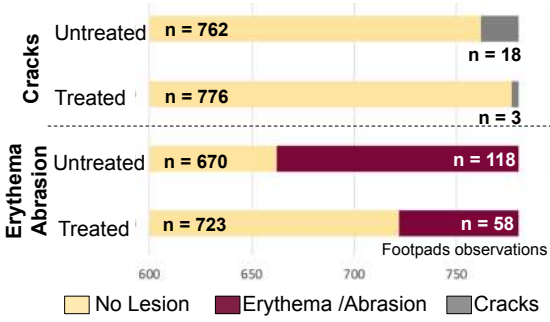

Fig 1. Group B : Erythema/abrasion and Cracks on treated and untreated footpads.

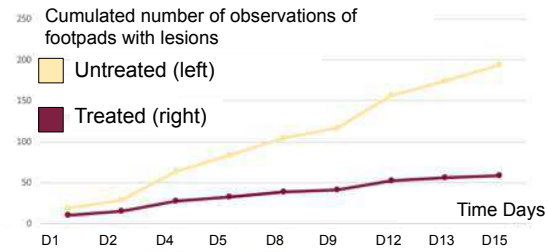

Fig 2. Group B: Damage to footpads over time

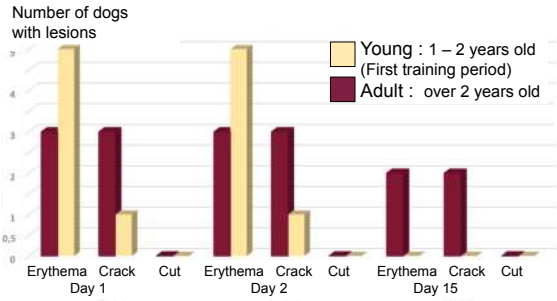

Fig 3. Group A: Age and type of lesions over time

Healthy footpad

Irritation/abrasion

Cracks

Cut

Vet footpads check Lekkarod Race

Discussion:

- When applied BID on footpads, the Balm is effective in limiting feet lesions on sled dogs during intensive training.
- Young dogs showed more erythema/abrasion at the start of the study possibly due to softer pads. A preventive treatment could limit feet lesions, during their first training season.
-The balm also reduced "snow balls" formation (frequent cause for sled dogs' feet irritation) as spontaneously mentioned by all five mushers.

References : * Catarino Mathilde, « Intérêt de l'application d'un réparateur cutané Dermoscent BIOBALM chez des chiens présentant un défaut de cornéogenèse de la truffe: étude clinique, Th. Med. Vet., Toulouse, 2014
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Healing effect of Dermoscent BIO BALM® on pedal lesions on sled dogs

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Résumé : Chez les chiens de traîneau les pododermatites, induites par l'entrainement, sont fréquemment une source de douleurs et de boiteries. Indépendamment du port de bottines protectrices une gestion adaptée est souvent nécessaire. L'objectif ici a été d'évaluer l'effet de l'application du baume Dermoscent BIO BALM® (Laboratoire Dermo Cosmetique Animale, Castres, F) sur la guérison des lésions induites par l'effort.
Les 30 chiens inclus ont été traités sur les coussinets des pattes droites (les gauches restant non traitées) : total: 60 traitées, 60 contrôles. Dermoscent BIO BALM® était appliqué, quotidiennement, avant et après l'entraînement (15 à 50 km) pendant 15 jours. L'érythème et les abrasions ont été évaluées avant et après entraînement aux jours :1, 2, 4, 5, 8, 9, 12, 13 et 15. Quand des lésions bilatérales étaient constatées le même jour (= BL), le délai de guérison était comparé entre coussinets traités et non traités (Khi 2). Erythème et abrasion ont été observés sur 16/60 pattes traitées et 19/60 pattes non traitées et respectivement 93.7% (15/16) et 42.1% (8/19) ont guéri (*P*-value < 1.5e-3).
Parmi les 15 chiens à lésions BL, 14/15 (93.3%) des pattes traitées ont guéri beaucoup plus vite que les non traitées. Plus de la moitié des coussinets traités (8/15 = 53.3%) ont guéri dans la journée de l'application contre aucun des coussinets non traités (*P*-value < 1.0e-3). Après seulement 4 jours, 11/15 (73.3%) des pattes traitées ont guéri contre seulement 6/15 (40%) des pattes non traitées (*P*-value < 6.7e-2).
Dermoscent BIO BALM® semble efficace pour aider et accélérer la guérison des lésions podales induites par les efforts intensifs des chiens de sport.

Summary : Pododermatitis is frequent in causing pain and lameness on sled dogs due to training conditions. Regardless of protective boots that dogs wear to prevent lesion deterioration, a proper treatment is often necessary. The objective of this study was to evaluate the healing effect of Dermoscent BIO BALM® (Laboratoire Dermo Cosmetique Animale, Castres, F) on lesions induced during training.
Thirty included dogs received an application of balm on right footpads (left ones as control)(total: 60 footpads treated, 60 untreated). Dermoscent BIO BALM® was applied before and after daily running (15 to 50 km) during 15 consecutive days and erythema/abrasion evaluated on all footpads twice daily, before and after training, on days 1, 2, 4, 5, 8, 9, 12, 13 and 15. When bilateral lesions occurred on a dog on the same day (= BL), the time for healing was compared between treated and untreated pads (Chi-squared test).
Erythema/abrasion was detected on 16/60 treated pads and 19/60 untreated pads among which respectively 93.7% (15/16) and 42.1% (8/19) were healed (*P*-value < 1.5e-3). Among 15 BL dogs, 14/15 (93.3%) treated pads healed much faster than the non-treated ones. More than half of treated pads (8/15 = 53.3%) were healed within one day of application versus 0 for untreated pads (*P*-value < 1.0e-3). After only 4 days, 11/15 (73.3%) of treated feet healed versus 6/15 (40%) of untreated feet (*P*-value < 6.7e-2).
Dermoscent BIO BALM® appears effective in aiding and speeding the healing of feet during intensive training of sporting dogs.

Background

- Sled Dogs are sportive animals trained for long runs.
- Pododermatitis frequently induced during competition or training.
- Limited number of studies and cases analysed.

Aim of the study

- To evaluate the healing effect of Dermoscent BIO BALM® on lesions resulting from sled dog training.

Day 0

Day 3

Example of healing: Right front pad (BIO BALM 3 days of application

Material and Methods

Dogs included

- 30 sled dogs from 5 mushers.

Methods

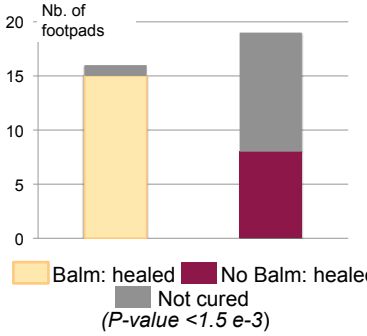
- Period of study: sequences of testing between november 2018 and march 2019.
- Trial performed on 15 consecutive days.
- Balm (Balm Dermoscent BIO BALM®) applied on right foodpads only (left ones as control), before and after daily training.

- Evaluation of erythema/abrasion:
  All footpads twice daily, on days: 1 - 2 - 4 - 5 - 8 - 9 - 12 - 13 - 15.
- Data collected on observation books.
- Comparison of the « healing time » between treated and untreated pads when bilateral lesions (BL) occurred on the same day

Statistics

- Chi-squared test - R Studio software.

Ethical committee Number : CERVO-2018-11-V



Sled Dog running on Lekkarod Race

Fig 1. Erythema/abrasion detection and global healing

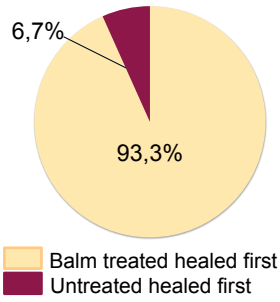


Fig 2. Simultaneous bilateral lesions on 15 dogs : speed for healing

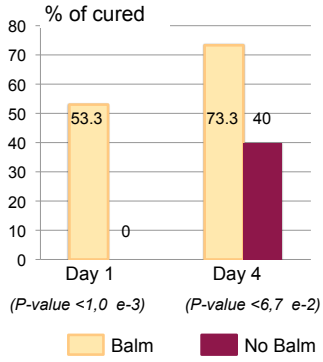


Fig 3. Time for healing of BL lesions

Results

GLOBAL:
- 165 balms Dermoscent BIO BALM® used.
-1560 observations were made and 60 pads were treated with the balm, corresponding to 1800 applications.
- 189 lesional foot pads observed during the training.

TOLERANCE: No record of side effects due to the application.

LESIONS: 16/60 (26,7%) treated pads ; 19/60 (31,7%) untreated pads

HEALING: see Fig. 1
93.7%(15/16) treated; 42.1%(8/19) untreated (*P*-value < 1.5 e-3).

BL DOGS:
- 14/15 (93.3%) treated pads healed faster than untreated ones. **Fig. 2**
- 8/15 (53.3%) treated healed within 1 day of application none for untreated pads (*P*-value < 1.0 e-3).
- After 4 days, 11/15 (73.3%) of treated feet healed versus 6/15 (40%) of untreated feet (*P*-value < 6.7 e-2). **Fig. 3**

Conclusion

- When applied, twice a day, on erythema and erosion induced by training, the Balm increases significantly the percentage of cured.
- A benefit almost constantly obtained as compared to untreated footpads.
- The effect is observed, within one day, on more than half of the cases.
- Thus Dermoscent BIO BALM® appears effective in helping and speeding the healing of feet during intensive training of sporting dogs.

References : * Catarino Mathilde, « Intérêt de l'application d'un réparateur cutané Dermoscent BIOBALM chez des chiens présentant un défaut de cornéogenèse de la truffe: étude clinique, Th. Med. Vet, Toulouse, 2014
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