

Foot lesions in Swiss dairy cattle (part A) – prevalence, risk factors and painful interventions during therapeutic claw trimming

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Key words

Anesthesia, Attitudes towards pain, Dairy cattle, Foot lesions, Prevalence, Risk factors

Aim of the study

Lameness causing foot lesions have severe negative impact on animal welfare and productivity in dairy cattle. Administration of anesthesia is regulated by law for interventions involving the pododerma. The aims of this study were to investigate the prevalence and risk factors of lameness and foot lesions in Swiss dairy cattle, and to assess information and attitudes towards painful interventions in the area of the bovine feet.

Material and methods

Prevalence of lameness, heel-horn erosion (HE), digital dermatitis (DD), Rusterholz' sole ulcer (RSU), sole ulcer (SU), white-line disease (WLD), double sole (DS), hemorrhages (H), severe hemorrhages (SH), subclinical laminitis (SLAM), chronic laminitis (CLAM), widened white line (WWL), interdigital phlegmona (IP), hyperplasia interdigitalis (HI), deep infection (DI), infection of the toe (TI), and claw score = 1 (CS) were assessed. Risk factor analyses for lameness, HE, DD, CS, RSU, WLD, DS, SH, SLAM, CLAM, and HI were performed using a multivariate logistic regression model. Information on herd-level risk factors including questions concerning painful interventions was gathered by personal interviews with 77 farmers. Assessment and evaluation of the attitudes of 32 claw trimmers of the Swiss Claw-Trimmer Federation SKV and 137 bovine veterinarians towards pain were performed similarly.

Results and significance

Cow-level and herd-level prevalence of lameness was 15% and 81%, respectively. High foot lesion prevalence were assessed for DD, WWL, CS, HE, SH, and RSU. Cleanliness, BCS, other foot lesions, breed, interest of the farmer, claw trimming routines, label RAUS, and silage feeding revealed to be associated ($P < 0.05$) with the occurrence of some of the evaluated foot lesions. Painful interventions were frequently performed without anesthesia. Significant differences in attitudes towards painful interventions in the area of the bovine feet were found among farmers, claw trimmers and veterinarians concerning (i) costs for and (ii) usefulness of pain management, (iii) knowledge of its statutory provision, (iv) importance of lowest pain, and (v) pain scores. Interpretation: Lameness caused by foot lesions in dairy cows has a high prevalence (mainly DD; digital dermatitis) and represents an important animal welfare issue also in Switzerland. Knowledge of claw trimmers and farmers about early detection and consequences of lameness and foot lesions, as well as knowledge about pain management must be improved. Digital dermatitis urgently needs further attention for reasons of animal welfare as well as for reduction of antimicrobial use and environmental pollution with heavy metals.

Publications, posters and presentations

Becker, J. (2012) Dr. Med. Vet. Dissertation, Vetsuisse Faculty, University of Berne

Becker, J. et al (2014) Lameness and foot lesions in Swiss dairy cows: I. Prevalence. *Schweiz Arch Tierheilk* 156: 71-78.

Becker, J. et al (2014) Lameness and foot lesions in Swiss dairy cows: II. Risk factors. *Schweiz Arch Tierheilk* 156: 79-89.

Becker, J. et al (2013) Current attitudes of bovine practitioners, claw-trimmers and farmers in Switzerland to pain and painful interventions in the feet in dairy cattle. *Vet J* 196: 467–476.

Becker, J. et al (2014) Factors influencing the attitudes of cattle veterinarians, farmers, and claw trimmers towards the pain associated with the treatment of sole ulcers and the sensitivity to pain of dairy cows. *Vet J* 200: 38-43.

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