

SOLE ULCER TREATMENT PROGNOSIS BY RADIOGRAPHY IN DAIRY CATTLE: IS IT POSSIBLE?

Hashemi, M.¹; Nowrouzian, I.²; Veshkini, A.²; Azizi, S.¹

1: Dept. of Clinical Sciences, Veterinary Faculty, Urmia University, Urmia, Iran.

2: Dept. of Clinical Sciences, Veterinary Faculty, Tehran University, Tehran, Iran.

Abstract:

Claw disorders (sole ulcer and white line disease) are the primary causes of lameness in most herds. The blood supplementation of corium is critical for sole ulcer repair and any vascular disorder must be resolved. Local irreversible bony changes, vascular thrombosis, periosteal new bone formation and tuberculum flexorium enthesiophyte can interfere with normal corium blood supply and resulting to delay in sole ulcer healing. The aim of this study was to investigate the feasibility of radiography as a prognostic mean for evaluation of lameness therapy, which caused by sole ulcer. Eighteen dairy cows with sole ulcer were chosen from six dairy farms. The radiographs were taken in 4 directions: lateromedial, dorso-palmar (plantar), lateral (interdigital cassette technique), and dorso-palmar (plantar) oblique views. Sole ulcer healing and severity of lameness were scored following seventeen days of the standard treatment. Limb soundness was also evaluated at day 45 after the treatment. The radiographic findings derived from previous study were compared to the post-treatment clinical findings by U-test and K-square test. Scores of lameness, lameness-recovery, and lesion healing were 2(0-3), 1(0-2), and 3(2-4) (median, range), respectively, at day 17 post treatment. Forty five days after standard treatment, the lameness was seen in 8 cows (from 15 observed cows). Significant differences were detected in some of the radiographic findings of P3 regions at 17th day after treatment between both lameness- resolved and not resolved groups. Within lameness-resolved group (5 cows) no bony changes were seen on the P3 sole surface. The radiographic findings at day 45 after treatment were in accordance with the results seen at day 17 post-treatment. In the lameness-resolved group, on 45 day after treatment, the score of bony changes in sole surface and tuberculum flexorium were less than 2. Although the sole ulcer showed high apparent healing score, but limb soundness was seen only in 5 and 7 cows at 17th and 45th days after treatment, respectively. The results revealed that causes of lameness did persist in the studied cows in spite of apparently healed sole ulcer. The results of this study indicated that in cows suffering from sole ulcer, chronic bone changes on the pedal bone, sole surface (specifically near the flexorium tuber), and tuberculum flexorium, (specially with 3-4 severity scores) should be considered as factors to cause intractable lameness.