

**LIMB FRACTURES IN 98 CATTLE — TREATMENT AND OUTCOME**

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Food animals are excellent orthopedic patients due to their quiet temperament, their long lying periods, their excellent bone healing potential and their good acceptance of external coaptation devices on their limbs. The objective of this study was to evaluate the records of 98 bovine patients treated due to limb fractures during a 17-years period.

The records of 98 bovine patients of our clinic suffering from limb fractures were analyzed retrospectively regarding the species, breed, and age of the animals, age, localization and type of fracture, the applied treatment method, and the final outcome.

Of a total of 98 cattle of different breeds, 33 were male and 65 were female. They had a mean age of 281.4 days ( $\pm 403.9$ ), and 33.7 % of them were only some hours to up to 26 days old. 58.9 % of fractures were located at the rear and 41.9 % at the front limbs. Fractures of the metatarsus (23.4 %) and metacarpus (29.2 %) were most common, with lower fracture incidence of the tibia (15.9%) and femur (14%). 59 patients with fracture were treated by external coaptation (cast, PVC-splints), 9 surgically by internal fixation, and in 29 cattle no treatment at all was performed due to poor prognosis.

A success rate of 83.6 % could be revealed by conservative and of 66.7 % by surgical treatment respectively. The conservative treatment in one calf failed, and therefore subsequently a surgical treatment was applied with good final outcome. In total, 38 cattle experienced complications, which were mild in cattle treated conservatively and all of them healed successfully. However, 8 of 9 surgically treated patients developed complications, resulting in euthanasia of 3 of them. The other 5 patients had a satisfactory final outcome. Statistical analysis revealed no significant correlation between the age of fracture and success rate. However, a logistic regression analysis showed that each day of treatment delay in a fracture patient led to a negative drift of 3.8 % for the success rate.

This retrospective study showed that conservative treatment of long bone fractures in cattle was associated with a significantly higher success rate of 83.6 % then surgery with 66.7 %. Similar success rates for fracture treatment in bovines were reported by others. This favorable success rate for treatment of limb fractures in young and adult cattle should encourage to apply conservative treatment in particular in metacarpal, metatarsal, phalangeal fractures even in practice. In contrast, for proximal bovine limb fractures, internal fixation is the applied method of choice. In any case, an adequate and professional emergency management of limb fractures, a correct decision to apply conservative or surgical treatment, and an adequate treatment at an early stage of fracture occurrence improve the likelihood for a successful final outcome.

**Keywords:** LONG BONE FRACTURE, TREATMENT, EXTERNAL COAPTATION, FRACTURE SURGERY, CATTLE