

ACQUIRED FLEXURAL DEFORMITY IN A COW

R. O. Ramadan

Department of Surgery and Radiology

College of Veterinary Medicine and Animal Resources

King Faisal University, P.O. Box 1757, Al-Ahsa-31982, Saudi Arabia

Case History

A 4-year old mixed breed cow was presented because of left fore limb lameness of two months duration. The cow had been confined by tying the foot of the involved limb for nearly one month. On examination, the animal walked on the dorsal part of the fetlock and pastern region (Fig. 1). The left limb looked shorter than the right one and there was diffuse enlargement of the involved foot from the proximal part of the metacarpus to the claws. The latter was curled. The fetlock was difficult to extend even under anaesthesia. Because of the severity of injury a decision was made to amputate the foot distal to the carpus.

Surgery

After being fasted for 24 hours, the animal was anesthetized with Ketamine (Ketaset, Bristol Laboratories, Syracuse, N. Y.) and Xylazine (2% Rompun, Bayer Leverkusen, Germany) were mixed (5 and 0.2 mg/kg, respectively) and administered intramuscularly. An additional ring-block was made with 20 mL of 2% lidocaine solution.

An incision was made at the level of the proximal third of the left metacarpus. The bone was exposed and transacted. The muscles were transacted 3 cm distal to the bone to complete the amputation. The muscles were then pulled over the bone and sutured with polyglactin-910 (Vicryl, Ethicon) to cover the bony stump. The skin was closed with non-absorbable sutures which were removed in 10 days. The stump was covered with sterile dressing containing framycetin sulphate BP 1% (Sofra-tulle, Roussel Lab. Ltd., England). The animal was given an intramuscular injection of long acting oxytetracycline @ 20 mg/kg (Terramycin LA, Pfizer). The wound was redressed every 3 days and healed by second intention (Fig. 2).

Pathology

Sagittal sections (Fig. 3) revealed that the digital flexor tendons (both superficial and deep) were shortened and pulled the claws to nearly an angle of 90° from the vertical line. Histologically, the tendons had an irregular appearance and were fragmented. They



Fig. 1: Deformity of distal part of the foot in a cow.



Fig.2: The same animal as in Fig. 1 following amputation of the deformed foot and healing of the wound.



Fig. 3: The amputated foot of the animal after reflecting the skin. Note the severe knuckling.

were surrounded by compact bundles of connective tissues with abundant mononuclear (lymphocytes and macrophages) infiltration. The blood vessels had narrow lumens with thick and vacuolated walls.

DISCUSSION

In horses, flexural deformities are major cause of lameness and are associated with various degrees of tendon contraction (Stashak, 1988; Barr, 1994). This problem does not often occur in cattle subjected to modern housing conditions. It is interesting to note that the number of feet lesions varies with housing condition and the incidence of lameness may reach 25-30% (Singh *et al.*, 1993; Leonard *et al.*, 1994; Wells *et al.*, 1995).

Individually kept animals may be subjected to lameness due to bad management and the animal under discussion developed lameness due to unacceptable restraint technique. In this particular case the animal inflicted further injury to itself by the unsuccessful attempt to free its limb.

This case could have been treated by tendonectomy and lengthening of the tendons but it was anticipated that the prognosis would be medically or economically

favourable. The latter was later on confirmed by histopathology. Alternatively bracing and artificial foot placement could have been tried..

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