

SUCCESSFUL MANAGEMENT OF POLYARTHRITIS WITH LINCOMYCIN IN A CALF-A CASE REPORT

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Septic or polyarthritis is the most common clinical condition that affects the joints in cattle. Incidence of lameness related to joint diseases in cattle is well documented. Infectious arthritis may result from localization of bacteria, viral, mycotic or mycoplasma in a joint. With the presence of pus in the joint cavity, the infectious arthritis is termed as septic, pyogenic or suppurative arthritis. Haematogenous origin of infectious arthritis is the most common disease encountered in young calves as joint ill or neonatal polyarthritis. *Staphylococcus aureus*, *Streptococci spp.*, *Corynebacterium pyogenes*, *E. coli*, and *Salmonella spp.* are the most frequently implicated organisms for causing infectious arthritis in cattle. The presence of fibrin deposits over the synovial membrane and articular cartilage decreases the nutritive effectiveness of synovial fluid and inhibits the diffusion of antibiotics used to treat septic arthritis (Bertone, 1996). Lincomycin is an antibacterial agent widely used to treat gram-positive aerobic and anaerobic infections that are resistant to the β -lactamase antibiotics (Spoo and Riviere, 1995). The successful treatment of arthritis and pedal osteomyelitis with lincomycin was reported by Plevierleith (1988).

Case history and observation

A crossbred female calf aged 21 days weighing approximately 40 kg was brought to the large animal surgery out patient unit of Madras Veterinary College Teaching Hospital, Chennai with the history of limping of both the fore limbs and non-weight bearing of left hind limb for a week. The bilateral carpal and left hock and fetlock joints were found to be affected and open septic wound in each joint was noticed. Physical examination of the joints revealed painful swelling with reduced joint range of motion. On the basis of clinical manifestation, the clinical condition was diagnosed as polyarthritis and the treatment was proceeded.

Treatment and discussion

On day one the affected joints were lavaged with Ringer's lactate solution by through-and-through needle lavage technique and the wounds were dressed with antiseptic solution (0.1% povidone iodine) and bandaged. Strepto-penicillin @ 11mg/kg and phenylbutazone @ 4mg/kg were administered intramuscularly and the above treatment schedule was continued for a week and no clinical improvement was noticed. Later during the second week of the treatment period amikacin @ 20 mg/kg and gentamicin 4 mg/kg were administered intramuscularly for five days but no significant clinical recovery was noticed. The pus material from the affected joints was subjected to antibiotic sensitivity test (ABST) and the result revealed high sensitivity to lincomycin, moderate to enrofloxacin and resistance to gentamicin and penicillin groups. With the ABST result the calf was treated with lincomycin @ 10mg/kg intravenously for 7 days and melonex @ 0.4mg/kg intramuscularly for 5 days and supplements of Vitamin A 6,00000 I.U. intramuscularly for three days were administered. Passive physiotherapy of the affected joints both morning and evening for 20 minutes was followed. The condition improved gradually with the above treatment and on 4th week of treatment period complete wound healing with satisfactory joint range of motion was noticed. Both systemic and intra-articular administration of antibiotics in infectious arthritis is also preferred by other workers to achieve better results. Lincomycin was found to be effective against the gram positive organisms like *Staphylococcus spp*, *Streptococcus spp*, *Clostridium tetani*, *Clostridium welchii*, several *Actinomyces species* and some *Nocardia species* and also has some activity against certain strain of *Mycoplasma pneumonia* (Spoo and Riviere, 1995). It has been indicated for parenteral use in sheep and cattle for the treatment of arthritis and osteomyelitis (Plevierleith, 1988). Surgical treatment has been reported to increase the chance of recovery much more than the conservative therapy with the use of systemic antibiotics, however Singh and Tayal, (2002) suggested that surgery is usually not indicated in young calves with polyarthritis.

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