Therapeutic Management of Foot Rot in an Asian Elephant (*Elephas maximus*)

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Abstract

The elephant cow presented with acute right hind limb lameness and swelling that persisted despite anti-inflammatory therapy. The hind limb with chronic non-healing sole ulceration was examined manually and confirmed that it was suffering from foot rot. The treatment regimen includes Formalin bath, KMnO₄ wash and Copper sulphate debridement coupled with parenteral administration of Enrofloxacin. The lameness improved dramatically after 10 days of treatment.

Keywords: Elephant; *Elephas maximus*; foot rot; sole region

Introduction

The anatomy of the feet (manus and pes) of Asian (*Elephas maximus*) and African (*Loxodonta africana*) elephants is specialized to support the locomotion of the largest living land animals (Miller et al., 2008). While walking, the elephants are being exposed to many of the foreign bodies viz. wires, nails, sharp stones, etc. Hence foot problems constitute the single most important ailment of captive elephants (Csuti, 2001). The major causes of foot problems are chronically wet and dirty conditions of the standing places. Indian elephants (*Elephas maximus*) are generally maintained in the temples for religious purpose (Arunachalam et al., 2007).

Case History

A female, Asian elephant of 24 years age and approximately 3500-4000 kg body weight was referred with the past history of limping and purulent foul smelling discharge from the right hind limb (Fig. 1). Clinical examination of the foot revealed pain on pressure, abnormal limb conformation, swelling, improper gait and sero-sanguinous discharge from the sole region that showed necrotic changes with foul smelling, which is suggestive of foot rot.

Treatment

Foot rot is the condition where the sole region shows necrotic changes with foul smelling discharge. The affected area was thoroughly cleaned with 1% Potassium permanganate and the debridement was carried out using Copper sulphate. The affected foot was soaked in a diluted formalin bath (5%-6%), followed by soaking in KMnO₄ solution for a further 10 minutes (Fowler and Mikota, 2006) (Fig. 2). The foot was daily dressed with Potassium permanganate and glycerine for 2 weeks (Fig. 3.). The antibiotic sensitivity test of the discharge from the lesion
revealed sensitivity to Enrofloxacin and the organism isolated was *Fusobacterium necrophorum* (the old name was *Spherophorus necrophorus*), a bacteria that can also cause foot rot in cattle, diphtheria in calves and navel ill in foals and calves. Enrofloxacin was administered twice daily for 10 days at the dose rate of 2.5 mg/kg body weight (Mikota and Plumb, 2003). On the seventh day, there was progressive improvement in the gesture as well as the drying of the lesion was noticed. After 10th day there was marked improvement in the walking and exercising.

Foot problems in the elephant can be treated successfully by aggressive therapy that includes parenteral antibiotic therapy, administration of topical preparations, daily debridement, lavage, or foot soaks. The treatment in this case also was continued for a week in order to prevent the occurrence of postoperative complications due to excess weight bearing.

Daily work and care of foot, frequent examination and curing of foot to remove the foreign objects, regular rasping of toe nails and proper trimming of soles were the suggestions offered to avoid the future recurrence of the condition.

**References**


