Network for Research and Development in Africa
International Journal of Pure and Applied Science Research
ISSN: 2384-5918, Volume 11, Issue 13
PP 79-84 (July, 2024)
DOI: 45727711-11137
arcnjournals@gmail.com
https://arcnjournals.org

Management of Nail-Induced Suppurative Laminitis in a Five Years Old Male Camel (*Camelus Dromedarius*): A Case Report

UMAYANGE, Aondowase
Department of Veterinary Surgery and Diagnostic Imaging, Joseph Sarwuan Tarka University, Makurdi Nigeria
ONYEBERECHI Amarachi Sylvia
Department of Public Health, National Open University of Nigeria
AYONGO, Aondofa Jeremiah
Department of Veterinary Pathology, Joseph Sarwuan Tarka University, Makurdi Nigeria

Abstract: *Laminitis is defined as inflammation of the laminar corium of the hoof, a condition in ungulates that results into severe lameness, pain, changes in gait, posture, and behaviour, and permanent damage to hooves. The disease can be acute or chronic, and severity can range from mild to severe laminitis. This debilitating condition affecting the feet of ungulates, is commonly associated with various factors such as dietary changes, metabolic disorders, and trauma. This case report describes a unique incident of nail-induced laminitis in a 5-years old camel (Camelus dromedarius) that was presented upon wildlife park visitation by the zoo's veterinary consultants at Oracle wildlife Park in Makurdi, Benue State. A meticulous clinical examination was carried out and a small nail was pulled out at the median border of the sole. There were open broken lines on the soles with suppurative exudates. The wounds were debrided and washed with hydrogen peroxide and dressed with iodine tincture. The camel was placed on penicillin-stretomycin at the dose rate of 1ml/20kg for 5 days and piroxican at the dose rate of 1.20Mg/Kg body weight for 5 days with advice to avoid excercise and avoid high carbohydrates diet. There was completed recovery on day 50 post management.*

Keywords: *Laminitis, Camel, Nail, Hoof health.*

1.0 INTRODUCTION

Laminitis is defined as inflammation of the laminar corium of the hoof, a condition in ungulates that results into severe lameness, pain, changes in gait, posture, and behaviour, and permanent damage to hooves (Ogbanya *et al.*, 2017; Frank, 1981)). The disease can be acute or chronic, and severity can range from mild to severe *laminitis* (Amstal and Shearer 2008). It is also known as founder (Dioli and Stimmelmayr 1992). It is a painful condition characterized by inflammation and damage to the laminae within the hoof of animals (Anderson *et al*., 2004). Laminitis commonly results from endocrine diseases such as equine metabolic syndrome (EMS) or pituitary pars intermedia dysfunction (PPID), but other causes can include weight bearing on supporting limbs due to injury and excessive sugar intake from grain or lush pasture (Greenough, 1981). Laminitis can lead to severe lameness and even euthanasia in extreme cases (Oehme, 1974). Although primarily observed in horses (Broster *et al.,* 2009),

laminitis can affect other ungulates such as camels (Fahmy *et al.*, 2006), cattle, sheep, goats, donkeys, monkeys and pigs. In this case report, we document a specific incident of nail-induced laminitis in a 5- years old male camel. The incidence occurred among five flocks of camels that housed for four years at Oracle Zoo, Makurdi, Nigeria, and was presented upon routine visit.

2.0 CASE PRESENTATION

A 5-year-old male dromedary camel (*Camelus dromedarius*) domiciled at Oracle Zoo was presented with lameness in the left forelimb (figure 1 & 2). The animal exhibited increased reluctance to move, decreased appetite, and signs of discomfort. On physical examination the Camel lameness was represented through Partial or non-weight bearing by left forelimb, swelling all over foot, pain on palpation, toe-out postures, shivering while sitting, and semi flexed hock in sitting postures and asymmetry of the pelvis (Gahlot, 2007). Significant heat and pain were noted in the dorsal and palmar aspects of the affected hoof and white fluids were seen in the bracken laminate tissues and a small needle was sighted towards the median edge of the sole Mild swelling around the coronary band and pastern region were also observed at clinical examination.

Figure 1

Figure 2

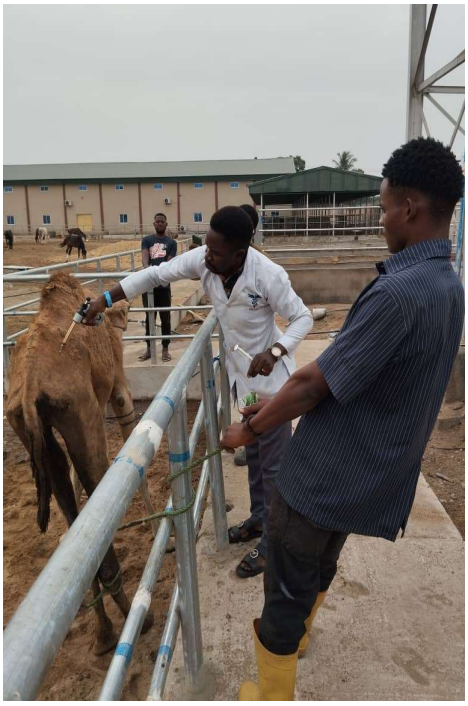

Figure 3

Figure 4

Figure 1: Clinical examination of Camel's foot

Figure 2: Nail induced suppurative Laminitis

Figure 3: Treatment of camel with laminitis

Figure 4: Five months Post treatment laminitis in camel

3.0 DIAGNOSTIC FINDINGS

Clinical examination revealed the presence of a foreign object, needle lodgement within the sole of the affected hoof. Further clinical examinations identified the object as a 3-inch ceiling nail, firmly embedded in the sensitive laminae. More also there was suppurative exudates in the hooves clearly observed at the broken hooves lesions that is about 6cm. The Camel lameness was represented through Partial or non-weight bearing by one or more limbs, swelling over the entire joint, pain on palpation, toe-out postures, shivering while sitting, semi flexed hock in sitting postures and asymmetry of the pelvis and the camel was always on sitting posture (Gahlot, 2007). The exact circumstances leading to the nail's insertion were unknown, but it was suspected that human error during routine maintenance/ sanitation work might have caused the incident since construction work was ongoing in the premises.

4.0 TREATMENT AND OUTCOME

Immediate intervention involved was administration of nonsteroidal anti-inflammatory drugs, NSAIDs (Gahlot and Chouhan 1992), Piroxicam at the dose 10mg/kg body weight intramuscularly for three days to alleviate pain and reduce inflammation. Antibiotics, Penicillin-streptomycin was also given at the dose of 1ml per 20 kg body weight intramuscularly for 5 days and Oxytet spray twice daily for one week. Massaging of the affected leg with cold water was also carried out as a palliative measure for two weeks. The nail was also carefully removed under sedation, ensuring no damage to the surrounding structures. Subsequent management included regular hoof trimming, supportive therapies (such as padded bandages), and a low carbohydrate diet to aid in hoof health. Over a period of 50 days, lameness significantly improved, and the camel gradually regained mobility and normal appetite.

5.0 DISCUSSION

Ceiling Nail-induced laminitis in camels is an exceedingly rare occurrence, often associated with accidental trauma or acts of negligence (Mostafa *et al.,* 2018). In this case, human error during maintenance and construction works likely resulted in the nail penetrating the sensitive laminae, triggering the subsequent inflammatory response (Ogbanya *et al.*, 2017). Prompt identification and intervention were vital in alleviating pain and promoting recovery. Combine therapy was used in treatment of the camel and complete healing was achieved in 52 days. Veterinarians and animal caretakers must be vigilant during routine procedures to prevent such incidents and ensure the well-being of the animals under their care. This study agrees with reported by Mostafa (2020), incidence of laminitis is higher in male horses and camels (Al–Juboori, 2013) and higher in fore limb than hind limb.

5.0 CONCLUSION

Timely diagnosis, appropriate treatment, and meticulous management played a crucial role in the successful healing of laminitis and fast restoration of the animal's normal locomotion and appetite. Sharing such cases broadens awareness among veterinary professionals and encourages preventive measures to safeguard the hoof health of captive ungulates.

REFERENCES

Al–Juboori A (2013). Prevalence and etiology of lameness in racing camels (Camelus dromedarius) in Abu Dhabi Emirate. Journal of Camelid Science 6:116-121.

Amstal SV and Shearer J (2008). Manual for Treatment and Control of Lameness in Cattle. Chapter 8: Infectious Claw Diseases. pp 165-177.

Anderson TM, McIlwraith CW and Douay P (2004). The role of conformation in musculoskeletal problems in the racing thoroughbred. Equine Veterinary Journal 36(7):571-575

Broster CE, Burn CC, Barr ARS and Whay HR (2009). The range and prevalence of pathological abnormalities associated with lameness in working horses from developing countries. Equine Veterinary Journal 41:474-481.

Dioli M and Stimmelmayr HJ (1992). The One-Humped Camel (Camelus dromedarius) in Eastern Africa. A pictorial guide to disease, health care and management. pp 212-217.

Fahmy LS, Zabady MK, Hegazy AA and Farag KA (2006). Angular fetlock deformity of the hind limbs in camels: Clinical, radiological and histopathological studies. Scientific Journal of King Faisal University (Basic and Applied Sciences) 7:117-129.

Frank ER (1981): Veterinary Surgery. 1st Indian ed. Delhi: CBS Publishers & Distributors; pp. 211–212.

Gahlot TK and Chouhan DS (1992). Camel Surgery. 1st Edn. Gyan Prakashan Mandir, Bikaner, India. Gharu S (2014). A Clinical study on occurrence and treatment of wounds in camels. MVSc Thesis, College of Veterinary and Animal Science, Rajasthan University of Veterinary and Animal Sciences, Bik

Greenough PR, MacCallum FJ, Weaver AD (1981): Lameness in Cattle. 2nd ed. Bristol: John Wright & Sons; PP: 219–227.

laminitis. Equine Vet Edu 25: 524-535.

laminitis. Equine Vet Edu 25: 524-535.

Mostafa M.B. (2020). Distal limb lameness in draught dromedary camels. Journal of camel practice and research vol 27 no 3, p 359-366

Mostafa MB and Khalil AH (2018). Linear and angular biometric measurements of limbs of camels (Camelus dromedarius). Journal of Camel Practice and Research 25(2):153-162.

Oehme FW (1974): Prier JE. Text Book of Large Animal Surgery. Baltimore: Williams & Wilkins; pp. 205–208.

Ogbanya KC, Eze CA and Ihedioha JI (2017). Radiographic Assessment of

Prevalence of Laminitis from the Hoof-Related Forelimb Lameness Feet of Nigerian Horses. J Vet Sci Technol 8: 481.doi:10.4172/2157-7579.10004811

ACKNOWLEDGMENTS

Sherlock C, Parks A (2013) Radiographic and radiological assessment of
Sherlock C, Parks A (2013) Radiographic and radiological assessment of
The authors are thankful to the Oracle Zoo, management staff for their collaboration and cooperation during the treatment and management of this case.