

Medical Management of Chronic Otitis Externa in a Cow – A Case Report

Priyanka, R.B. Dhabale, L. Rashmi and R.D. Padalkar*

Department of Teaching Veterinary Clinical Complex

*Department of Veterinary Microbiology

Veterinary College, Hassan

Abstract:

A six year old cross breed cow was brought to Teaching Veterinary Clinical Complex, Veterinary College, Hassan with the history of anorexia, drop in milk yield, head shaking and foul smelling discharge from left ear sine one and half month. Physical examination revealed increased rectal temperature i.e. 105°F, congested mucous membrane, increased respiratory rate and foul smelling pus discharge from left ear. Sample was collected aseptically from affected ear and subjected for microbiological examination. *Corynebacterium* spp were found on culturing and highest sensitivity was found for Ciprofloxacin. Based on these findings a diagnosis of chronic otitis externa was made. Case was managed medically with Enrofloxacin @ 2.5mg/kg, IM, s.i.d., for one week and other supportive therapy. Ear cleaning was done with diluted povidone iodine and Ciprofloxacin drops were instilled topically. Significant improvement was noticed after five days of treatment.

Keywords: Chronic otitis externa – Cow - Medical management

Introduction

Chronic Otitis externa is an inflammation of the outer ear and ear canal epithelium and it may develop anywhere from the tympanic membrane to the pinna (Radostits *et al.*, 2007). External ear in animals is longer and deeper than in humans, which makes infection or wax to

build up easily and hard to remove (Duarte and Hamdan, 2004). Although young ones and adults of all animal species are susceptible to otitis, it is more common in dogs, cats, calves and pigs and is rare in adult cattle. Otitis externa has a multifactorial etiology and bacteria play an important role in otic disease (Lis *et al.*, 2008). Chronic inflammation damages the epithelial migration pattern, which will affect the normal clearing mechanism of the ear and in untreated cases it will lead to otitis media and otitis interna (Watson, 2003). Identification and Correction of underlying primary, predisposing and perpetuating causes along with antimicrobial therapy and ear cleaning are the commonly practiced methods in the treatment. Usually it takes several weeks to months for recovery from infection. Nonresponsive cases are managed by a surgical procedure (Zepps Operation) (AL-Farwachi and AI-Hassan, 2009). The present paper describes about the successful medical management of chronic otitis externa in a cow.

Case History and Observations

A six year old cross breed cow was brought to Teaching Veterinary Clinical Complex, Veterinary college, Hassan with the history of anorexia, drop in milk yield and foul smelling discharge from left ear

sine one and half month. Increased rectal temperature (105°F), congested conjunctival mucous membranes, increased respiratory rate (32/min), repeated head shaking and foul smelling yellowish pus discharge from left ear (Fig. 1) were observed on clinical examination. Sample was collected aseptically from affected ear and was subjected for microbiological examination. *Corynebacterium spp* (Fig. 2) were found on culturing and highest sensitivity was found for Ciprofloxacin. Haematological findings (Haemoglobin = 12.6 g/dl, Packed Cell Volume = 38%, Total Erythrocyte Count = 6.14×10^6 cells/cmm, Total Leukocyte Count = 38,000 cells / cmm, Differential Leukocyte Count: Neutrophils = 75, Lymphocytes = 22, Monocytes = 2, Basophils = 1, Eosinophils = 0) revealed leukocytosis and Neutrophilia, which further suggested acute bacterial infection.



Fig.1: Photograph showing yellowish pus discharge from ear



Fig.2: Photograph showing *Corynebacterium Spp* (Pallisade appearance)

Diagnosis and Treatment

Based on all these findings a diagnosis of chronic otitis externa was made. Case was managed medically with Enrofloxacin @ 2.5mg/kg, IM, s.i.d., for one week and Meloxicam @ 0.5 mg/kg, IM, b.i.d., for three days. Ear cleaning was done with diluted povidone iodine and ciprofloxacin drops were instilled topically in the affected ear for one week. Rectal temperature was reduced to 103.2°F on second day of treatment and normal rectal temperature was observed on fourth day of treatment. Otic discharge was reduced from third day of post treatment. Significant improvement was noticed after five days of treatment.

Discussion

Otitis externa is one of the most common disease process seen in small animal practice and young ruminants, but is rarely noticed in adult cattle (Yeruham and Elad, 1999). Otitis in present case might be attributed to the poor horn conformation. Poor horn conformation of cattle in tropical regions acts as predisposing factor by compressing or occluding the entrance of external ear canal (Shannon *et al.*, 2001). High rectal temperature, head shaking and foul smelling otic exudates were the major clinical signs observed in this case. AL-Farwachi and AI-Hassan, (2008 and 2009) observed similar clinical signs in sheep and calves suffering from otitis externa. *Corynebacterium spp* isolated from the present case are the normal commensal organisms. This finding is in accordance with the AL-Farwachi and AI-Hassan, (2008 and 2009) they stated that many of

the commensal organisms are isolated from the otitis cases which act as opportunistic pathogens. Infrequently *Corynebacterium spp* are associated with dermatitis in cattle. Aalbæk *et al.*, (2010) and Henneveld *et al.*, (2012) reported the occurrence of *Corynebacterial spp* in dogs suffering from otitis externa. Systemic antimicrobial therapy in conjunction with topical ear cleaning employed in present case was justified by Gotthelf, (2004), who found that cleaning of affected ear with diluted antiseptics along with systemic and topical antimicrobials helps in faster recovery.

Summary

A rare case of chronic otitis externa in a cow and its medical management is described.

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