



Case Study

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Clinical Management of Contagious Ecthyma in Goats – A Case Report

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ABSTRACT

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Two non-descript goats of age 1 and 1.5 years were presented at Veterinary Clinical Complex (VCC), PGIVER, Jaipur with history of pyrexia, anorexia, nasal discharge, lameness and various skin lesions on muzzle, lips and mouth. On physical examination, it was found that the lesion was dry ulcerative and scabby. Auscultation revealed a significant crackling sound suggestive of pneumonia. The aforesaid clinical pictures pointed towards orf infection. Both cases were treated with antibiotics and topical therapy till clinical recovery. Both goats were clinically recovered after treatment.

Introduction

Orf also known as contagious ecthyma, contagious pustular dermatitis (CPD), sore mouth or scabby mouth (CDC, 2015), is an acute contagious, debilitating and economically important zoonotic viral disease of sheep, goats and some other domesticated and wild ruminants. The affected animal manifests painful skin lesions around the mouth and muzzle on account of which anorexia or starvation usually noticed (Constable *et al.*, 2017). Typical clinical signs in mucous membrane of the oral cavity, tongue, lips and teats are developed

sequentially in form of papules, vesicles, pustules, scabs which are important for diagnostic point of view. *Contagious ecthyma (Orf) virus* belongs to the genus *Parapoxvirus* of the family *Poxviridae* (Murphy *et al.*, 2012; Nadeem *et al.*, 2010). Direct / Indirect contact can transmit the virus through broken, scarified or damaged skin.

Orf cases are more often noticed in pasture or manual feeding under drought conditions. *Orf virus* is hardy as it can resist dry environment and can continue to live for considerable length of time ranging from months to years in dry environments (Radostits *et al.*, 2007).

Although this disease was reported in all seasons around the world (Nandi *et al.*, 2011), however, outbreaks of the disease in grassland or flattening system are frequently noticed in late summer, autumn and winter. The probability of occurrence of orf infection is more in new born lamb or within a period of 3 to 4 months after birth (Lovatt *et al.*, 2012; Reid *et al.*, 2007). Herd prevalence rates of this disease usually are higher in goats than sheep (Mondal *et al.*, 2006; Scagliarini *et al.*, 2012). Some sheep and goats may act as carrier animals without showing any sign of disease.

History

Two non pregnant goats of different age group 1 and 1.5 year was presented at VCC, PGIVER, Jaipur with the complain of anorexia, nasal exudates, lameness and various skin lesions on muzzle, lips and mouth.

Clinical observation

On physical examinations of goats we found dry ulcerative and scabby characteristic lesions around mouth, lips, muzzle and inter digital space were seen (Fig. 1 and 2). Rectal temperature was higher than the normal (103.7°F) while respiration and pulse rate were in normal range. Also there was presence of nasal exudates with sneezing. On auscultation the lungs, crackling sounds were heard suggestive of pneumonia. Characteristics lesions pointed towards contagious ecthyma.

Treatment and Discussion

Good personal hygiene measures were taken to avoid further transmission the virus as zoonotic potential of this disease is well known. Symptomatic treatment was instituted for reducing the severity of lesions and prompt recovery. For the treatment of

pneumonia and control of secondary bacterial infection, the goats were treated with the Enrofloxacin (Floxin 10%) @ 5 mg/kg body weight intramuscularly S.I.D. for 5 days, intravenous injection of Flunixin Meglumine (Megludine) @ 2.2mg/kg body weight as a NSAID B.I.D. for 3 days and Catcough (as a cough electuary with immunomodulatory properties) @ 15 gm T.I.D for 5 days. Povidone Iodine (Cipladine-5%) was applied on scab lesions daily till healing. This intervention had shown drastic improvement in the clinical condition of both the goats.

In this case the goats were presented with signs of severe generalized proliferative, ulcerative and dry scabby lesions in the skin of oral cavity, interdigital space. Orf virus gains entry through abraded skin and replicates in epidermal cells which in turn lead to sequential development of peculiar skin lesions through multiple stages i.e. erythema, macule, papule, vesicle, pustule, scab, and scar (Gelberg *et al.*, 2012; Hargis *et al.*, 2012 and Tizard, 2013). Although infection is confined to squamous epithelium of the oral cavity, eyelids, teats and coronary band of affected animals in combination of secondary bacterial infections (Gelberg *et al.*, 2012; Hargis *et al.*, 2012 and Tizard, 2013), however, lesions extend to the squamous epithelium of the esophagus, rumen and omasum, causing ulcerative gastroenteritis (Zachary *et al.*, 2012). Nandi *et al.*, (2011) also observe the characteristic multifocal, severe proliferative dermatitis in Orf infected goats in combination with chronic pneumonia, arthritis and moderate to severe lymphadenopathy. The clinical pictures of present cases are in concur with (Kumar *et al.*, 2015 and Abdullah *et al.*, 2015) who reported vesiculo-proliferative lesions on the external and internal surfaces of the mouth, lips, face, ears, nostrils, scrotum, udder, vulva and interdigital region characterized the disease in sheep and goats.

Fig.1 Shows dry, ulcerative and scabby lesions around mouth, lips and muzzle



Fig.2 Shows dry, ulcerative and scabby lesions around mouth, lips, muzzle and nasal Exudate



In the present case, the goat showed signs of pneumonia, which could have been precipitated by extension of the lesion into the respiratory tract or secondary bacterial

complication. Radostits *et al.*, (2007) have described severe systemic reactions with extension to the alimentary tract and trachea that may result in gastroenteritis and

bronchopneumonia in cases of Orf. Specific therapy is not recommended for combating this viral infection. However, both goats were treated with application of Povidone Iodine on the scab lesions daily till healing. The aim of treatment was reducing the severity of the lesions and speed recovery as removal of the scab may delay healing, this approach agrees with (Radostits *et al.*, 2007 and Nandi *et al.*, 2011) and the supportive treatment that includes the topical application of ointments or astringent lotions and systemic antimicrobial administration against secondary bacterial complications may speed recovery.

Contagious ecthyma is a zoonotic disease that causes huge economic losses, so early detection and clinical management can resolve the condition early in the flock. Though, the disease is self-limiting and secondary bacterial infection causes the complication, so, antibiotics, anti-inflammatory and topical therapy helpful in the recovery.

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