International Journal of Science, Environment and Technology, Vol. 5, No 6, 2016, 4618 – 4621

ISSN 2278-3687 (O)
2277-663X (P)

Case Report

AN UNUSUAL OCCURRENCE OF PSEUDOMONAS MASTITIS IN AN EWE AND ITS CLINICAL MANAGEMENT – A CASE REPORT

M. Geetha*, K.M. Palanivel, T.R. Gopalakrishnamurthy, S. Udayavel and R. Ragavi
Department of Veterinary Preventive Medicine,
Veterinary College and Research Institute, Namakkal
Tamil Nadu Veterinary and Animal Sciences University, India

Abstract: A three year old ewe with painful swelling of left half of udder, anorexia was presented to Teaching Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal. On clinical examination, milk from left half of udder was straw yellow with clots and no gross abnormalities in milk from right half were detected. Culture and isolation of the milk samples identified the pathogen *Pseudomonas aeruginosa* based on cultural characteristics and biochemical tests. The ewe was treated with Ceftriaxone @ dose of 25mg/kg body weight, enrofloxacin @ of 5 mg/kg body weight and flunixin meglumine @ of 1.1 mg/kg body weight and ethanoveterinary treatment (Aloevera, turmeric and calcium oxide gel for external application) for five days and complete recovery was noticed after five days.

Keywords: Mastitis, ewe, Pseudomonas.

Introduction

Infectious mastitis has been described as one of the main diseases affecting animals during lactation (Jorgea *et al*., 2012) and bacterial mastitis is a significant welfare and financial problem in sheep flocks (Gelasakis *et al*., 2015). Numerous pathogens can cause mastitis but *Staphylococcus spp*. are the most frequently diagnosed causal microorganisms of intramammary infection in goats and sheep. Other pathogens such as *Streptococcus spp.,* Enterobacteriaceae, *Pseudomonas aeruginosa, Mannheimia haemolytica*, *Corynebacteria* and fungi can produce intramammary infection in small ruminants, but occurrence rates are lower (Radositis *et al.*, 2006). The present case report describes successful therapeutic management of a ewe affected with Pseudomonas mastitis.

Anamnesis, signalment and clinical examination

A three year non-descriptive ewe was presented to Teaching Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal, Tamil Nadu with a history of anorexia, dullness, painful swelling in the left mammary gland for two days, refused its lamb for suckling and lambed sixty days back. The salient features of clinical examination were pyrexia, bilateral watery nasal discharge, cough, cessation of ruminal motility, hard

*Received Nov 23, 2016 * Published Dec 2, 2016 * www.ijset.net*

painful swelling of left quarter of udder and mild swelling of right quarter and lacerative wound noticed on the left teat. Physical examination of milk from left quarter revealed yellow colour with flakes and from right quarter no detectable gross abnormalities.

Isolation and identification of etiological agent

Milk was collected aseptically from the left quarter and subjected to culture isolation and identification based on the methods described by Carter *et al.* (1994). Preliminary isolation in nutrient agar revealed white colour colonies with fried egg appearance. Cultural characteristics on MacConkey agar shown non-lactose fermenting activity as straw yellow colour colonies. Identification tests revealed gram negative rods on gram's staining, indole - negative, Voges -proskauer - negative, methyl red-negative, citrate - positive, urease - positive and oxidase - positive. Based on the cultural and biochemical characateristics the causative agent was identified as *Pseudomonas aeruginosa*.

Therapeutic management

The ewe was treated with Ceftriaxone at the dose rate of 25 mg/kg body weight intravenously, enrofloxacin at the dose rate of 5 mg/kg body weight intramuscularly and flunixin meglumine at the dose rate of 1.1 mg/kg body weight intramuscularly and ethanoveterinary treatment (Aloevera, turmeric and calcium oxide gel for external application) for five days. The animal was recovered uneventfully after five days of treatment (Figure 1-3).

Discussion

Sheep rearing is mainly practiced by small, marginal farmers and landless labourers in India commonly by extensive system of management and it contributes for their income, household nutrition and insurance against any emergent need. Clinical mastitis in pastured ewe averages only about the 2% per year, but it causes the 10% of all ewe death. Pseudomonas Mastitis in sheep is very rare in ewes and 60-90 % of clinical mastitis are due to *Staphylococcus aureus*, remainder to *Streptococcus agalactiae* and *Mannheimia haemolytica* (Radositis *et al.*, 2006). Among the Pseudomonas species *P. aeruginosa* is the most common cause of mastitis. This genera of bacteria usually present in soil, water and faeces of animals and usually acts as opportunistic pathogen and predisposing factor for its association with mastitis is usually wound or lacerations in the teat (Carter *et al.*, 1994) which is correlated well with this case. Following strict managemental practices which avoid wound or laceration in the teat of ewes especially during weaning period or close to the parturition, proper treatment of lacerations/wound in teat and finally monitoring udder health

regularly in the flock are the primary and secondary prevention strategies that definitely helpful in prevention of mastitis due to this opportunistic pathogen.

Fig.1 Udder - First day of treatment

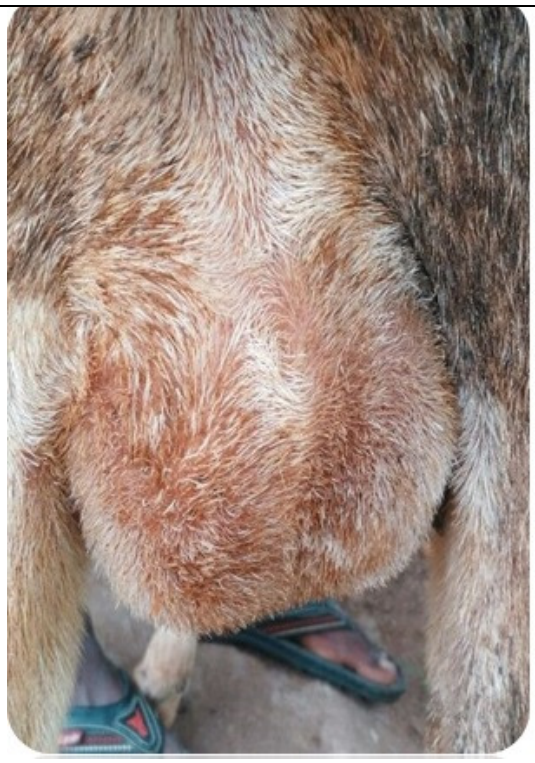

Fig.2. Udder - Third day of treatment

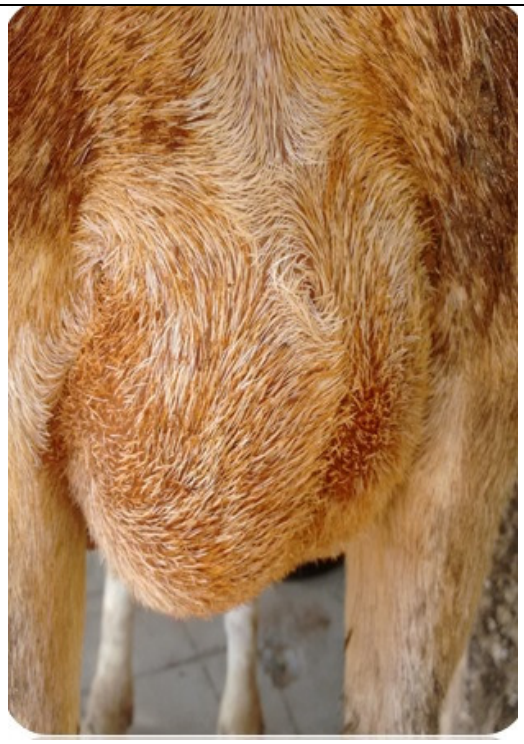

Fig. 3. Udder - Tenth day

Acknowledgement

The authors acknowledge the help and support of The Dean, Veterinary College and Research Institute, Namakkal for providing facilities to conduct the study.

References

[1] Carter, P.J., Carter, M.E., Markey, B.K. and Carter, G.R. Pseudomonas species, In: Clinical Veterinary Microbiology, 1st Edn., Mosby-Year Book Europe limited, London, U.K. pp.237-242 (1994)

[2] Gelasakis, A.I., Mavrogianni, V.S., Petridis, G., Vasileiou, N.G. and Fthenakis, G.C. Mastitis in sheep-The last 10 years and the future of research, Vet. Microbiol., 181 (1-2): 136-46 (2015)

[3] Jorgea, P., Cristiane, D.R.M., Michele, G., Marcele, S.V., Gladis, F.C., Otoniel, G.L., Teresa O. Moreira, T. and Veronica, S. Somatic cell count and california mastitis test as a diagnostic tool for subclinical mastitis in ewes, Acta Scientiae Veterinariae, 40 (2): 1038 (2012)

[4] Radostits, O.M., Gay, C.C., Hinchcliff, K.W. and Constable, P.D. Veterinary Medicine: A textbook of the diseases of cattle, horses, sheep, pigs and goats, 10th Edn., Saunders Ltd., Oxford, U.K. pp.759-762 (2006)