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Research Paper

BACTERIOLOGICAL ANALYSIS OF MASTITIS IN GOAT

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Mastitis suspected ewes were brought to the veterinary dispensary; milk samples were collected and examined for the bacteriological load. The pathogenic bacteria isolated were found to be *Staphylococcus* sps (75%), *E.coli* (33.3%), *Bacillus* (8.23%) and *Pseudomonas* (8.23%) respectively. The mono bacterial infection with *Staphylococcus* is predominant over the mixed infection with *E.coli*, *Bacillus* and *Pseudomonas*.

Keywords: Goat, Mastitis, Staphylococcus, E.coli

INTRODUCTION

Mastitis is a critical disease in dairy animals, which affects the economy of farmer with reduced milk yield and milk quality. Mastitis is the inflammation of udder with physical changes of udder and physiological changes in milk (Nazifi *et al.*, 2011). The etiology of mastitis was mainly by pathogenic microbes like *staphylococcus* (Contreras *et al.*, 2007), *coliforms* (Pal *et al.*, 2011) and other organisms like *Pseudomonas* and *Bacillus* sps.

MATERIAL AND METHODS

In the present study animals brought to veterinary dispensary with the history of ewes showing swollen udder, and difficult in milking even some ewes are not allowed their kids for suckling. The animals on clinical observation found to be with

swollen udder which feels pain on palpation. The milk was collected aseptically from the affected quarters (12) and send for bacteriological examination.

RESULTS AND DISCUSSION

The microbial load in collected milk samples was analyzed to be *Staphylococcus* sps, *E.coli*, *Bacillus* and *Pseudomonas*. Among 12 milk samples 9 shows positive for *Staphylococcus* sps, 4 positive for *E.coli*, and one sample positive for both *Bacillus* and *Pseudomonas*. The prevalence of microorganisms in the present study was reported as *Staphylococcus* sps (75%), *E.coli* (33.3%), *Bacillus* (8.23%) and *Pseudomonas* (8.23%) respectively. Similar results with be *Staphylococcus* (coagulase positive

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Staphylococcus spp. (44.76%) and coagulase negative *Staphylococcus* spp. (22.86%) was the predominant organism isolated from mastitis milk samples followed by *Streptococcus* spp., *E.coli*, *Bacillus* spp., *Corynebacterium* spp. and *Pseudomonas* spp. Ajuwape et al. (2005) reported the similar kind results with coagulase-negative *Staphylococcus* (50.9%) as predominant organism followed by *Escherichia coli* (15.1%), *Streptococcus* spp. (9.4%), *Bacillus cereus* (7.5%), *Mannhiemia haemolytica* (5.7%), *Corynebacterium* spp. (5.7%) and *Klebsiella pneumoniae* (5.7%).

The other major pathogen responsible for mastitis was *E.coli* with 33.3% these results are in similar with the results of Ameh and Tari (2000), while Sreepriya et al. (2016) reported the prevalence of *E.coli* with 50% incidence in goat mastitis. Radostitis et al. (2000) reported that the *Streptococcus* spp., *E.coli*, *Klebsiella* spp., *Citrobacter* spp., *Enterobacter* spp., *Pseudomonas* spp., *Serratia* spp., *Proteus* spp. The *Bacillus cereus* found in one sample in the present study the prevalence of this organism also reported by the studies of Ajuwape et al (2005) with *Bacillus cereus* (7.5%). The presence of *E.coli* in the study was mainly due to the poor hygiene in shelter and contaminated water source.

On analysis it reveals that *Staphylococcus* spp plays predominant role for mastitis in ewes followed by *E.coli*. Even the other organisms like *Bacillus* and *Pseudomonas* were detected the *Staphylococcus* spp and *E.coli* plays important role. The mono microbial infection with *Staphylococcus* and *E.coli* and mixed infection with both these organisms and mixed with *Bacillus* and *Pseudomonas* also observed in the present study. The incidence of mono microbial

infection with *staphylococcus* spp observed in 7 quarters, *E.coli* in 1 quarter while the mixed infection was observed with both *Staphylococcus* and *E.coli* in 2 quarters and with *staphylococcus*, *Bacillus* and *Pseudomonas* in 1 quarter. Sreepriya et al. (2016) reported the mixed infection of *Staphylococcus* with *E.coli* and *Klebsiella*. The *Staphylococcus* spp and *E.coli* were isolated from the gangrenous mastitis cases in goat by Pal et al. (2011). The mono bacterial infection predominates mixed infection in goat mastitis. Sarker and Samad (2011) also reported the predominance of mono bacterial infection (76.27%) over the mixed microbial infection (16.95%).

One of the major causes of mastitis in goat farming was found to be poor management with low hygiene at the farm as well as animals itself. The unhygienic condition of farm and animals results in mastitis with coliforms (Radostitis et al., 2000).

The *Staphylococcus* spp were the predominate as like in other mastitis cases in other animals while the presence of coliforms is majorly due to improper management in farms as well as unclean animals. One of the predisposing factor for mastitis in goat were found to be overcrowding which results in scope of spreading microorganisms from infected animals to healthy animals even from infected quarter to healthy quarter in same animal. 🌀

REFERENCES

1. Ajuwape ATP, Roberts AA, Solarin OO and Adetosoye AI (2005), "Bacteriological and Haematological Studies of Clinical Mastitis in Goats in Ibadan, OYO State, Nigeria", *Small Ruminant Research*, Vol. 60, No. 3, pp. 307-310.

2. Ameh J A and Tari I S (2000), "Observations on the Prevalence of Caprine Mastitis in Relation to Predisposing Factors in Maiduguri", *Small Ruminant Research*, Vol. 35, No. 1, pp. 1-5.
3. Contreras A, Sierra D, Sanchez A, Corrales J C, Marco J C, Paape M J and Gonzalo C (2007), "Mastitis in Small Uminants", *Small Ruminant Research*, Vol. 68, pp. 145-153.
4. Nazifi S, Haghkhah M, Asadi Z, Ansari-Lari M, Tabandeh M R, Esmailnezhad Z and Aghamiri M (2011), "Evaluation of Sialic Acid and Acute Phase Proteins (Haptoglobin and Serum Amyloid A) in Clinical and Subclinical Bovine Mastitis", *Pak. Vet. J.*, Vol. 31, pp. 55-59.
5. Pal Wadhwa B, Mandial D R and Mandeep Sharma R K (2011), "Acute and Per-Acute Gangrenous Mastitis in Goats and its Management", *Intas Polivet*, Vol. 12, No. 1, pp. 63-64.
6. Radostits O M, Gay C C, Blood D C and Hinchcliff W (2000), "Veterinary Medicine", *Textbook of the Diseases of Cattle, Sheep, Pigs, Goats and Horses*, 9th Edition, W B Saunders Ltd., London.
7. Sarker H and Samad M A (2011), "Udder-Halve-Wise Comparative Prevalence of Clinical and Sub-Clinical Mastitis in Lactating Goats with their Bacterial Pathogens and Antibiotic Patterns in Bangladesh", *Bangladesh Journal of Veterinary Medicine*, Vol. 9, No. 2, pp. 137-143.
8. Sharma S, Kashyap S K and Sharma K N (1999), "Antibiogram of Bacterial Isolates of Caprine Mastitis", *Indian Journal of Dairy Science*, Vol. 52, No. 2, pp. 126-128.
9. Sree Priya D and Ayodhya (2016), "Bacteriological and Antibiogram Studies of Milk Samples of Clinical Mastitis in Goats", *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*, Vol. 9, No. 6, pp. 33-35.



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