

Prevalence of mastitis and antimicrobial resistance patterns of *Escherichia coli* and *Staphylococcus aureus* isolated from the infected udder of dairy cows in coastal regions

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Abstract

Prevalence of mastitis and their antimicrobial resistance in Amtali (sub-district) area of Barguna District were studied. Mastitis was diagnosed by examining the udder and milk of 300 dairy cows. The bacteria were cultured and biochemical tests and antimicrobial profiling were done. The overall prevalence of mastitis was 5.0%, and cross-bred and local cows had 6.4% and 3.8%, respectively. The prevalence was higher in animals 7 - 8 years old (5.9%) and in cows of 3rd - 4th parity (8.8%). Cows with peri-parturient diseases and 1st - 2nd lactation had prevalence of 6.8% ($P < 0.05$) and 5.7%, respectively. The prevalence in dry and wet seasons was 33.3% and 66.7% ($P < 0.10$), respectively, and 53.3% of cows were affected with mastitis when the floor was wet and soiled. The prevalence was 73.3% ($P < 0.05$) in unhygienic conditions. The prevalence of *E. coli* and *S. aureus* in mastitis milk samples was 73.3% and 66.7%, respectively. *E. coli* was sensitive to amoxicillin (36.4%), ampicillin (36.4%), tetracycline (54.6%), streptomycin and co-trimoxazole (81.8%), gentamicin & ceftriaxone (90.9%), cefuroxime and cefixime (100%). *S. aureus* was sensitive to co-trimoxazole (60%), tetracycline (70%), amoxicillin, ampicillin, streptomycin (80%), gentamicin, ceftriaxone (90%), cefuroxime and cefixime (100%). (Bang. vet. 2024. Vol. 41, No. 1 – 2, 13 – 22)

Introduction

Mastitis is a major economic burden on the dairy industry, affecting milk production and quality of milk (Abebe *et al.*, 2016). Mastitis is recognized as one of the costliest diseases in the dairy industry (Rahman *et al.*, 2009). Many microbes cause mastitis (Jamali *et al.*, 2018). These include both contagious and environmental bacteria, in addition to fungi, algae, and viruses. There is significant variation in the distribution of mastitis and mastitis-causing pathogens among countries, regions, and farms

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