

Prevalence and antibiotic susceptibility pattern of staphylococcus aureus, Streptococcus agalactiae and Escherichia coli in dairy goats with clinical and subclinical mastitis

ABSTRACT

Mastitis is a common disease in lactating goats that widespread throughout the world. This study aims to determine the prevalence of *Staphylococcus aureus* (*S. aureus*), *Streptococcus agalactiae* (*S. agalactiae*) and *Escherichia coli* (*E. coli*) in clinical and subclinical mastitis in does, and to identify the antibiotic susceptibility of the isolated bacteria. A total of 145 milk samples were collected from different farms located around Besut and Setiu districts, Terengganu, Peninsular Malaysia. All does were screened for subclinical mastitis using the California Mastitis Test. Signs of clinical mastitis were recorded. The milk samples were inoculated on Mannitol salt agar, blood agar and Eosin-Methylene Blue agar. The isolated bacterial colonies were subjected to Gram's staining and biochemical tests (catalase, coagulase, oxidase, triple sugar iron and Christie, Atkins, and Munch-Peterson tests) for identification. The susceptibility of *S. aureus*, *S. agalactiae*, and *E. coli* to the antibiotic was tested using disc diffusion assay. The prevalence of clinical and subclinical mastitis was 23% (34/145) and 40% (58/145) respectively. The bacteriological examinations revealed that 15/92 (16.3%), 6/92 (6.5%) and 1/92 (1.1%) of the mastitis samples were positive for *S. aureus*, *S. agalactiae*, and *E. coli* respectively. Overall resistance levels were very low except for *S. aureus* towards penicillin (22%) and tetracycline (11%) and for *S. agalactiae* towards penicillin (33.3%). In conclusion, *S. aureus* was the most frequently isolated organisms from the caprine mastitis followed by *S. agalactiae* and *E. coli* in the study area.

Keyword: Mastitis; Goats; *S. aureus*; *S. agalactiae*; *E. coli*; Antibiotic susceptibility