

## Comparative Efficacy Evaluation of Six Brands of Amoxicillin against *S. aureus* Isolated from Subclinical Mastitic Milking Dairy Cows in Bishoftu

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### Abstract

Bovine mastitis is inflammation of the mammary glands that interferes with the normal flow and quality of milk. *S. aureus* is the most important pathogen among Staphylococci species related to subclinical mastitis (SCM) in dairy cows. Antibiotics must be safe, effective and of acceptable quality to be used in both human and veterinary medicines. The study was aimed to isolate *S. aureus* from California mastitis test (CMT) positive dairy cows and to evaluate the efficacy of the six brands of amoxicillin against *S. aureus*. Purposive sampling with a cross-sectional study design was conducted from February 2016 to April 2016 in five dairy farms found in Bishoftu town. A total of 162 dairy cows were examined using California mastitis test (CMT) and out of this 112 (69%) were found positive and from this 30 (26.78%) isolates of *S. aureus* were recorded. The highest and the lowest prevalence of the California mastitis test (CMT) positive was found in Prime (100%) and Tseday (36.84%) farm respectively. The highest and the lowest prevalence of the *S. aureus* isolate were found in Prime (50%) and college of veterinary medicine and agriculture (10%) farm respectively. In vitro drug efficacy against the bacterial isolates was determined by comparing the zone of inhibition obtained from clinical and laboratory standards institute (CLSI) by using disc diffusion method. The comparative efficacy between the brands was evaluated by measuring zone of inhibition and was interpreted as resistant, intermediate and susceptible. *S. aureus* isolate were 100% resistant to the six different brands of amoxicillin. Generally it is concluded that *S. aureus* is among the major causative agent of subclinical mastitis in five dairy farms of the study area. The isolates were also resistance to amoxicillin brands indicating the need of other alternative and effective antibiotics.

purpose of disease prevention and treatment [6]. Antimicrobial drugs are used to control, prevent, and treat infection and to enhance animal growth and feed efficiency. Approximately 80% of all food-producing animals receive medication for part or most of their lives [

The use of antibiotics in animals and human is for the

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