Phenotypic and genotypic identification of antibiotic resistance genes of *Staphylococcus* strains isolated from bovine mastitis milk

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The study was carried out to investigate the phenotypic and genotypic identification of *in vitro* antimicrobial susceptibility of 21 Staphylococci (10 *Staphylococcus aureus* and 11 Coagulase Negative staphylococci) isolated from bovine mastitis to 12 antimicrobial drugs frequently used in veterinary medicine in Algeria. Isolates of staphylococci from bovine mastitis were tested for antibiotic resistance with disc-diffusion method according to the National Committee for Clinical Laboratory Standards guidelines in the Mueller-Hinton agar, and resistant genes *mecA*, *blaZ*, *aac-aph*, *ermA*, *ermC*, *tetK* and *tetM* were detected by PCR. Staphylococci isolates showed high resistance to penicillin (95.23%), oxacillin (80.95%), clindamycin (80.95%), and erythromycin (76.19%) but, no resistance was detected for gentamicin by all these strains. Among 21 isolates of Staphylococci, 20 were found to be methicillin and multidrug resistant. Multidrug resistant strains exhibited several antibiogram patterns (antibiotic I to XIII). The distribution of antibiotic-resistant genes was *mecA* (100%), *tetM* (100) followed by *blaZ* (42.85%). In the present work, the significant determination was the high prevalence of methicillin-resistant Staphylococci, which were resistant to multiple antibiotics. The finding of methicillin-resistant staphylococci (MRS) from bovine mastitis is the first report in Algeria and revealed the status of resistant isolates in herd that might be helpful in treatment, controlling of resistant strains and for deciding culling of cows.

Biography

Saidi Radhwane has completed his PhD from Blida University and Post-doctoral studies from the same University. He has published more than 13 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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