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"Phenotypic and Genotypic characterization of *Staphylococcus* species"

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Abstract

In the present investigation, The confirmation of 45 strains of coagulase negative Staphylococcus isolates was studied among mastitic cows, buffaloes. 23 from cow milk and 22 from buffalo milk. In addition to 18 *S.aureus* isolates, 11from cow milk and 7 from buffalo milk. *S.aureus* was isolated from the examined cow and buffaloes samples in pure culture (61.1 and 38.9 % respectively). CNS were isolated from the examined cow and buffaloes pure cultures was 51.1 and 48.9 % respectively. Identification of isolates was achieved by using convetional identification methods, the API staph ID test (BioMerieux) and PCR amplification. 14 *S. xylosus*. 12 *S. hominis.* 7 *S. lugdunensis.* 6 *S. cohnii*, 4 *S. saprophyticus*, 1 *S. simulans*, 1 *S. lentus* strains were confirmed. All B lactamase CNS producers (100%) detected from the examined buffaloe milk samples were resistant to penicillin. While 72.7% of B lactamase CNS producers detected from the examined cows were resistant to it. Most of CNS isolates were sensitive to neomycin, gentamicin, florfenicol and erythromycin. Mean while the examined isolates were resistant to cloxacillin, amoxycillin, ampicillin, penicillin and oxacillin. 52.2% and 18.2% CNS isolated from cows and buffaloes respectively were toxin (A) producers, while 4.35% and 4.5% respectively were toxin (A+D) producers, And 4.35% isolated from cows were toxin A+C+D and 4.5% isolated from buffaloes were toxin A+C producers. Sodium Dodecyl Sulfate-Poly Acrylamide Gel Electrophoresis (SDS-PAGE) showed the protein profile analysis of 41 CNS strains. It obvious that protein profile of CNS strains is separated into 1-12 fractions. The proportion of similarity in the samples that were separated ranged between 88% and 97%

Key word: Coagulase negative staphylococci (CNS)- Bovine Mastitis- Gel Electrophoresis -Toxin.

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ARABIC SUMMARY…… ……..

LIST OF ABBREVIATIONS

ACME	**Arginine catabolic mobile elements**
α hemolysis	**Alpha hemolysis**
AFLP	**Amplified fragment length polymorphism**
API	**Analytical Profile Index**
β hemolysis	**beta hemolysis**
β-lactamase	**beta-lactamase**
blaZ genes	**β-lactam-resistant gene**
CNS	**Coagulase negative staphylococci**
Coa	**Coagulase**
CPS	**Coagulase positive staphylococci**
EU	**European Union**
IBM	**Individual bulk milk**
IMI	**Intramammary infection**
***mecA* gene**	**Methicillin resistant gene A**
MIC	**Minimum inhibitory concentration**
MR-CNS	**Methicillin resistant Coagulase negative staphylococci**
MRSA	**Methicillin resistant S. aureus**
NBG	**No bacterial growth**
NCCLS	**National Committees for clinical laboratory standards**
PCR	**polymerase chain reaction**
PFGE	**pulsed field gel electrophoresis**
rDNA	**Ribosomal Deoxyribonucleic acid**
RFLP	**Restriction fragment length polymorphism**
rRNA	**Ribosomal Ribonucleic acid**
SCC	**Staphylococcal cassette chromosome**
SCM	**Subclinical mastitis**
SDS-PAGE	**Sodium Dodecyl Sulfate -PolyAcrylamide Gel Electrophoresis**
SEs	**Staphylococcal enterotoxins**
SFP	**Staphylococcal food poisoning**

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