

## **Abstract**

An enormous problem reported worldwide namely bovine mastitis caused by MDR( multi-drug resistant) *S.aureus* results in prolonged antibiotic treatment and livestock death. Mastitis caused by pathogenic *S.aureus* strains led to a focused study on surveillance of antibiotic susceptibility along with phenotypic and genotypic characterization. The isolation of *Staphylococcus aureus* to the determination of antibiotic susceptibility pattern from obtained cow's milk samples was the aim of the current study. Cows affected by mastitis from different farms in Kalyuobia Governorate, one hundred milk samples were conducted for *S.aureus* isolation with a prevalence of 30% where 20% isolates were coagulase positive (CoPS) and 10% isolates were coagulase negative CoNS (Gram staining, oxidase, catalase, DNase, haemolysis, and the coagulase test were employed for bacterial identification). The majority of the strains (COPS) n=20 were profiled revealing antimicrobial sensitivity to be multidrug resistant. The occurrence of oxacillin susceptible *mecA* strains positive strains ( OS-MRSA) was revealed in 6 strains for the first time. Identification of MRSA strain by detection of *mecA* gene in the PCR .

**Keywords:** PCR ,*mecA* gene , Methicillin -resistant *staphylococcus aureus* (MRSA)