

MOLECULAR DETECTION OF STAPHYLOCOCCI ISOLATED FROM MASTITIS IN SHEEP AND COWS IN THI- QAR PROVINCE

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ABSTRACT

The present study aimed to investigate the prevalence of mastitis in sheep and cows in veterinary hospital during the period from August to December, 2014 in Thi-Qar province, Iraq. From a total of 700 milk samples collected from both animals (150 sheep and 100 cows), a positive number of clinical and subclinical mastitis cases in sheep recorded an infection rates of 46 (30.7%) and 60 (40.0%), respectively. On the other hand, in cows, clinical and subclinical mastitis recorded a percentages of (52.0%) and (18.0%), respectively ($p \leq 0.01$). According to the age distribution of the infected animals, the age groups of (2-4) and (4-6) years recorded the highest mastitis rates in sheep and cows with 75(70.8%) and 55(78.5%) infection, respectively ($p \leq 0.01$). The highest mastitis cases in sheep and cows was recorded in November with 39(88.6%) and 40 (86.9%), respectively. Rural areas showed the highest mastitis infections for both animals with 149 cases (59.6%) in comparison to Urban areas who recorded less mastitis cases with 101 cases (40.4%). Identification of common bacterial species isolated from all mastitis cases was done depending on morphological, cultural, microscopic characterization and biochemical tests, then confirmed by API system. The results of antibiotics susceptibility test for *Staphylococcus aureus* and Coagulase negative staphylococci isolates showed a high rate of resistance to Pencillin, Oxacillin, Ciprofloxacin, Amoxillin/ Clavulanic acid with a percentage of (100%), (82%), (75.5%), (74.5%). On the other hand, *Staph aureus* and CNS isolates showed high sensitivity to Vancomycin, Piperacillin, and Nitrofurantoin(80.1),(76.4%),(73.5%), respectively ($p \leq 0.01$). Polymerase chain reaction (PCR) was used, as a molecular technique, to detect the prevalence of *mec A*, *Plaz* and 16SrRNA genes in CNS (n=64) and *Staph. aureus* isolates (n=42). The results revealed that all *Staph. aureus* and CNS isolates were positive for the three genes, except *Staph. xylois* which showed a percentage of (93.7%) for *mec A* gene.

KEYWORDS: Staphylococci, Bovine Mastitis, Polymerase Chain Reaction