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Title: MOLECULAR CHARACTERIZATION OF STAPHYLOCOCCUS AUREUS ISOLATED FROM MASTITIC MILK

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Abstract: The present study was undertaken for isolation and identification of *Staphylococcus aureus* obtained from cases of bovine mastitis. The antibiotic sensitivity pattern of isolates of *Staphylococcus aureus* was studied. Molecular characterization of *Staphylococcus aureus* was done by Sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDSPAGE). For this purpose 75 milk samples were obtained from cases of bovine clinical mastitis. These samples were received in the department from RVC clinical complex, directly from the farmers and from organized private dairy farms in and around Ranchi. □ Out of 75 milk samples the percentage of *Staphylococcus* spp. was 53.33 percent, out of which percentage of Coagulase positive and coagulase negative *Staphylococcus* spp were 28% and 25.33% respectively. The prevalence of Staphylococcal mastitis was the highest among the mastitis caused by other bacteria. □ *Staphylococcus aureus* and *Staphylococcus epidermidis* (Coagulase negative *Staphylococcus*) were identified on the basis of their cultural characteristics, morphology and staining characteristics and biochemical profile. □ The drug sensitivity test of 21 Isolates of *Staphylococcus aureus* showed that Ciprofloxacin was most effective antibiotic followed by Tetracycline, Kanamycin, Amikacin, Chloramphenicol, Gentamicin, Streptomycin and Co-trimoxazole in decreasing order. The organisms were moderately sensitive to Cephalexin and Nitrofurantoin but highly resistance to Ampicillin. □ Similarly, 19 isolates of *Staphylococcus epidermidis* were subjected to antibiotic sensitivity test where Ciprofloxacin, Tetracycline, amikacin, Gentamicin, Kanamycin, Chloramphenicol and Cotrimoxazole were effective. The organisms were moderately sensitive to Nitrofurantoin, but highly resistance to Cephalexin and Ampicillin. □ When the whole cell protein of 21 isolates of *Staphylococcus aureus* were subjected to SDS PAGE against protein marker, we got 26 protein bands range from 207.90 KDa to 6.10 KDa having broad similarities. But 4 bands i.e. 36.35 KDa, 31.16 KDa, 24.05 KDa and 19.49 KDa were highly expressed in 8 out of 21 isolates. □ When the whole cell protein of 19 isolates of *Staphylococcus epidermidis* were subjected to SDS PAGE against protein marker, we got 14 protein bands range from 239 KDa to 14.08 KDa having broad similarities. But 2 bands i.e. 69.09 KDa and 32 KDa were highly expressed in all the isolates.

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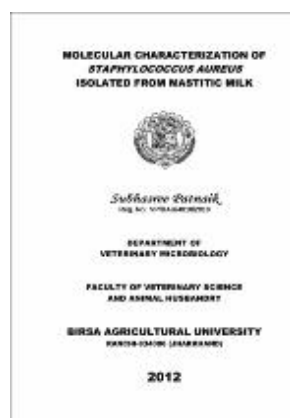
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