Proceedings of the Peradeniya University Research Sessions, Sri Lanka, Vol. 16, 24th November 2011

Bacterial Isolates and *In Vitro* Biogram of Milk Collected from Cows with Chronic Mastitis in the Central Province of Sri Lanka

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Bovine chronic mastitis (CM) has been a common problem in dairy herds with serious and frustrating consequences. This exists in unnoticeable subclinical form for months, persisting from one lactation to another, with high tendency of being nonresponsive to therapy, resulting in intermittent flare-ups and ending up in sub-acute or acute form. Chronically infected cows act as carriers and they impose a severe economic burden. The present study was aimed at revealing the organisms involved in CM and disclosing their antimicrobial susceptibility.

Two hundred and twelve cattle farms were selected through multistage sampling and 379 milking cows from these farms were screened by California Mastitis Test. Based on their history, 23 CM cows were identified and milk samples of these cows were cultured to obtain pure isolates. The bacterial isolates were identified on the basis of their cultural, morphological and biochemical characteristics. Susceptibility levels were determined by the disc diffusion method for seven commonly used antimicrobials in intramammary infusions.

Prevalence of CM in cows was 6%. Bacterial growths were vielded from 20/23 samples (87%). Only two of them showed a single isolate of bacteria and the remaining were mixed cultures. Twenty four coagulase positive Staphylococci (CPS), nine coagulase negative Staphylococci (CNS), nine Gram negative rods, six Streptococcus spp. ten Bacillus spp and five Corynebacterium spp were obtained out of 63 different isolates. An in vitro biogram revealed that 11/24 were resistant to at least one of the antibiotics used. Moreover, 7/24 isolates exhibited multi-drug resistance for minimum of three antibiotics and four isolates were resistant to chloramphenicol. Cephalothin was the most effective antibiotic (96%) for CPS. Only one CNS isolate showed multi-drug resistance and others were susceptible for all chemotherapeutic agents tested. Ampicillin was the drug of choice for Streptococci (with 100% susceptibility). Six out of nine (67%) Gram negatives were either resistant or intermediate to neomycin whereas all were susceptible to gentamicin. As there appears to be an increasing tendency of developing resistance to commonly used antimicrobials, indiscriminate and frequent use of antibiotics should be restricted to control emergence and spread of resistance. Moreover, identification of causative agents and testing their susceptibility to antibiotics is recommended prior to selecting a treatment for CM as the causative agent and the type of antimicrobial to be used cannot be generalised.