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Short Communication

COMPARATIVE EFFICACY OF SOME INTRAMAMMARY ANTIBIOTIC PREPARATIONS FOR TREATMENT OF SUB-CLINICAL MASTITIS IN BUFFALOES

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SUMMARY

On comparison of different intramammary antibiotic preparations for treatment of sub-clinical mastitis, the infusion of cloxacillin in infected quarters, resulted in a greater percentage of bacteriological cure (85.71 per cent buffaloes and 99.90 per cent quarters) as compared to treatment with amoxycillin plus clavulanic acid (80 per cent quarters and 66.66 per cent animals) and erythromycin (63.63 per cent quarters and 66.66 per cent animals). Spontaneous recovery was seen in untreated control group in 22.22 per cent of the quarters and 25.50 per cent of the buffaloes. There was significant decrease in mean somatic cell count in all three treatment groups, whereas, no significant decrease was seen in the control group. Treatment with cloxacillin gave better cure than amoxyclav and erythromycin.

Key words: Sub-clinical mastitis, somatic cell count, buffaloes

Mastitis is a disease complex with multifaceted aetiopathogenesis and main principles of its control programme include elimination of existing infection, prevention of new infection by maintaining hygienic condition at the farm and monitoring udder health status. The elimination of existing infection by means of appropriate antibiotic therapy is the most important. Due to indiscriminate use of antimicrobial agents, there are chances of emergence of resistant bacterial strains and change in sensitivity pattern of microbes. The present study describes compartive efficacy of some intramammary antibiotic preparations in treating sub-clinical mastitis (SCM).

Total 235 quarter milk samples were collected from 59 apparently healthy lactating Murrah buffaloes from Buffalo Research Centre of the University taking aseptic precautions. These samples were subjected to cultural examination by standard bacteriological technique and mean somatic cell count (SCC) as per method described by Schalm *et al.* (1971).

Animals found positive for SCM on cultural examination were divided into four groups and subjected to treatment with antibiotics as per their sensitivity pattern. Eleven quarters of 6 buffaloes were infused with intramammary preparation containing erythromycin 300 mg for three days at 12 h interval. Eleven quarters of 7 buffaloes were subjected to intramammary infusion of cloxacillin @ 200 mg for three days at 12 h intervals. Ten quarters of 6 buffaloes were infused with amoxycillin (200 mg) and clavulanic acid (28.5 mg) for three days at 12 h intervals. Nine quarters of 8 buffaloes were kept untreated control. These animals were grouped as I, 11, III and 1V, respectively. Milk samples from all the quarters were collected again 5 days after the last treatment for cultural examination and SCC.The data was analyzed using paired t-test (Snedecor and Cochran, 1994).

Treatment of SCM with cloxacillin in group-II animals showed highest per cent of bacteriological cure in 85.71 per cent buffaloes and 99.90 per cent quarters as compared to amoxicillin plus clavulanic acid (66.66 per cent of buffaloes and 80 per cent of quarters) and erythromycin (66.66 per cent of buffaloes and 63.63 per cent of quarters) as reported earlier by Binodkumari and Supekar (1992). However

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Sheikh and Willayat (1994), Vamerzani *et al.* (1997) and Wilson *et al.* (1999) reported a lower bacteriological cure (65.7 to 85.7 per cent) by cloxacillin. Hadimli and Vcar (1999) reported 78.9 per cent cure by treatment with amoxyclav. Whereas, Wilson *et al.* (1999) observed 76 per cent cure by erythromycin. In the present study, spontaneous recovery was seen in 25.50 per cent buffaloes and 22.22 per cent quarters in untreated control group. Buragohain and Dutta (1999) noticed no recovery in untreated group in bovines. In all the groups except in untreated control group, there was significant decrease in mean SCC per ml of milk. Amoxycillin plus clavulanic acid treated quarters showed large decrease in mean SCC followed by treatment with cloxacillin and erythromycin. On the basis of above findings, it was concluded that cloxacillin was more effective for treatment of sub-clinical mastitis in buffaloes as compared to amoxycillin plus clavulanic acid and erythromycin.

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