INCIDENCE OF R-PLASMIDS AMONG FARM-ANIMALS AND FARM-WORKERS

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Out of 60 farm-animals and 5 farm-workers sampled (rectal swabs) 38 animals and all the workers were found to carry resistant enteric strains; 88 such strains were isolated. Among them 24 were found to transfer one or more of their antibiotic resistant traits to sensitive strain *Escherichia* K 12 EC 1005 (*met*−, *nal*^{R}). High frequency of transferable resistant traits were observed to that of chloramphenicol (20), tetracycline (10), ampi-

cillin (9). Though six strains were found to transfer resistant traits for sulphamethaxazole none was observed for nitrofurantoin and erythromycin. Strains isolated from different animals were found to share common transferable resistant patterns among themselves as well as with that isolated from farm-workers. Ten different combinations of transferable resistant traits were observed. Strains isolated from cattle, calves, pigs, goats and from workers were found to carry transferable resistant traits for chloramphenicol.

Bacterial resistance to antibiotics are mainly borne by R-plasmids, which infect sensitive strains by conjugation, transduction and transformation(1). Incidence of high frequency of transferable resistance traits among farm-animals and workers reflects the antibiotic load in that environment or the spread of such resistant traits from an antibiotic loaded community. This study clearly shows the presence of more than one type of R-plasmids operating in the environment. Incidence of same transferable resistant strains among farm-animals and workers reveals that there is a dynamic movement of R-plasmids among the different groups. Thus the emergence of R-plasmids is no more confined to individuals but to the entire community. Proper sanitary facilities should be provided to prevent the spread of such resistant traits in the farm.

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Reference

1. Falkow, S. Infection multiple drug resistance. London, Pion Ltd., 1975.