NOSOCOMIAL INFECTION OF R-PLASMIDS IN A MEDICAL UNIT OF A GENERAL HOSPITAL

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Hospitals are subjected to a heavy load of antibiotics resulting in the selection of resistant strains. Resistance to antibiotics are mainly borne by R-plasmids(1). The high incidence of R-plasmids in the hospital environment could facilitate its spread among the patients during hospitalization. Out of 60 patients sampled on discharge from a Medical Unit at General Hospital, Jaffna, 23 were found to carry enteric strains harbouring R-plasmids; 29 such strains were isolated. High frequency of transmissible resistant traits were observed to ampicillin (27), chloramphenicol (24), tetracycline (23), sulphamethoxazole (12), trimethoprim (5), and erythromycin (2). The predominant transmissible resistant patterns among these strains were ampicillin-sulphamethoxazole (5) and ampicillin-chloramphenicol (4).

Out of 36 patients studied both on admission and on discharge, 11 were found to acquire transmissible resistant traits which included ampicillin (6), chloramphenicol (6), tetracycline (6) trimethoprim (4) and sulphamethoxazole (4), in varying combinations. 3 patients were found to lose transmissible resistant traits *in toto* whereas 4 patients lost part of their traits.

Acquisition of such transmissible resistant traits is due to the presence of hospital-borne R-plasmid(s) which are carried by prospective donor strains found in the hospital environment and among the medical personnel. Under non-selective conditions, the R-plasmids do not render any survival value to the host strain and they are gradually lost(2). Periodic checks should be carried out in the hospital for the presence of hospital borne R-plasmid(s). On encountering such R-plasmid(s) the general antibiotic therapy should be changed such that it does not render any selection pressure favouring the multiplication of these R-plasmid(s). In addition, proper hygienic condition should be maintained in hospitals to prevent the spread of prospective donor strains.

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References

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