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Evaluation of status of pulsed field gel electrophoresis as a molecular typing technique in Indian S. Typhi strains

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Introduction: Enteric fever is endemic to India and has a high morbidity and mortality rate. *Salmonella enterica* serovar Typhi is the most common serotype responsible for enteric fever in India. The present study was carried out to identify, characterize phenotypically *S. enterica* serovar Typhi strains and to standardize, evaluate and apply PFGE as a genotypic typing tool.

Material & Methods: Two hundred and five strains has received at the National *Salmonella* Phage Typing Centre, LHMC, New Delhi were included in this study. All isolates were subjected to serotyping, biotyping, phage typing and then to antimicrobial susceptibility testing by CLSI disk diffusion (CLSI) technique to Ciprofloxacin, Cefotaxime, Ampicillin, Chloramphenicol, Trimethoprim-Sulfamethoxazole and Tetracycline. Subsequently, MIC of the isolates was determined by E-test. Pulsed Field Gel Electrophoresis (CHEF DR-III Bio-Rad) was performed using Pulsnet protocol from CDC, USA. Results were analyzed using Gel Compare II software (Applied Maths).

Results: In the north zone, 28 different PFGE profiles were obtained which were grouped in to 6 different groups. In the central region, 28 different profiles were obtained which were grouped in 4 different groups. In the south region, 35 different profiles were obtained which belonged to 10 different groups.

Conclusion: PFGE represents a good typing tool depicting more type ability than Phage Typing and should be used to see molecular heterogeneity amongst S. Typhi strains.

Biography

Meenakshi Chaudhary is currently pursuing her PhD from Department of Microbiology; Lady Hardinge Medical College affiliated with University of Delhi under the supervision of Dr. V. S. Randhawa.

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