

## Antimicrobial Resistance and ERIC PCR Patterns of *Shigella sonnei* Strains Isolated from Pediatric Patients in Tehran, Iran (2008-2010)

Reza Ranjbar\*; Farzaneh Mirsaeed Ghazi

Molecular Biology Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran

ghazi.sfmgh@gmail.com

**Background & Objectives:** *Shigella sonnei* is considered as a major cause of diarrheal disease in both developing and developed countries. Iran is one of the endemic areas of shigellosis. The present study was undertaken to investigate the antibiotic susceptibility and genetic relatedness of *S. sonnei* strains isolated from pediatric patients in Tehran, Iran.

**Methods:** The study included all *S. sonnei* strains isolated from pediatric patients with diarrhea who were admitted to several hospitals in Tehran, Iran, during 2008-2010. *Shigella* spp. strains were recovered from patients using standard microbiological methods. *S. sonnei* strains were further studied by antimicrobial susceptibility testing and Enterobacterial Repetitive Intergenic Consensus (ERIC) - PCR analysis.

**Results:** Eighty nine *Shigella* isolates were isolated. *S. sonnei* was the most prevalent *Shigella* species (60.7%) followed by, *S. flexneri* (31.5%). Eleven antimicrobial resistance patterns (R1-R11) were identified among *S. sonnei* isolates. The majority of the strains were resistant to trimethoprim-sulfamethoxazole, tetracycline and streptomycin. All isolates were susceptible to ciprofloxacin, ceftizoxime and chloramphenicol. All strains were typable by ERIC-PCR. Five ERIC-PCR patterns (E1-E5) were found among *S. sonnei* isolates; however the half of the isolates was clustered in E4 pattern.

**Conclusion:** We found the antibiotic resistance rates are increasing among *S. sonnei* strains. As reported in recent previous studies, our finding also indicated that a predominant clone or limited clones of *S. sonnei* are responsible for shigellosis caused by this *Shigella* species in pediatric patients in Tehran, Iran.

**Keywords:** *Shigella sonnei*; Antibiotic Resistance; ERIC-PCR