

Antimicrobial Susceptibility of Shigella Isolated from Patients Referring to Milad and Children Medical Center in Tehran

Hosseini SM, M. Saadati M, Zahraei Salehi T, Nayeri Fasaei B, Doroudian, Tat M*

* Geneticman2005@gmail.com

ABSTRACT

Background and objective: Shigella is a gram-negative bacterium which causes the most communicable of bacillary infection in the world (shigellosis). The emergence antibiotic-resistant strains to multiple antibiotics, as well as, owing to increasing cases caused by shigella infection in the areas of the world, particularly in developing countries revealed surveillance necessity studies in order to assess the incidence shigella infection, identifying prevalent serogroup of shigella's species and also studying the pattern of antibiotic resistance of Shigella spp.

Materials and methods: In current research, during 2008 to 2010, a total of 134 hospital's samples had been isolated from enteritis cases at Milad and Children Medical Center (located in Tehran) was collected. The biochemical and serological test were done for determination of shigella Spp. Antibiotics susceptibility assay test was evaluated to 13 commonly-used antibiotics through disk diffusion method in Muller agar.

Results: According to biochemical and serological tests, existences of the shigella's genus in the all of the hospital's samples (100%) were confirmed. Classification was performed based on serological analysis which showed: 78 were Shigella sonnei (58.20%), 35 Shigella flexneri (26.12%), 12 Shigella boydii (8.96%) and 9 Shigella dysenteriae (6.72%). In an antibiogram test, co-trimoxazole, ampicilin and tetracycline were showed high degrees of resistant including 73.13%, 37.31% and 26.11%, respectively. In addition, the highest incidence of shigellosis was found in summer (54.23%) which belonging to children between 2 -12 of age. Furthermore, all of the stains were completely susceptible to three antibiotics including ciprofloxacin, ceftazidime and ceftriaxone, respectively.

Conclusion: This epidemiologic study systematically monitored rate of occurrence shigella infection at tow hospital in Tehran, during 2008 to 2010. Among other species, Shigella sonnei was distinguished as the prevalent strain. The antimicrobial resistance pattern indicated the prescription of three antibiotics including co-trimoxazole, ampicilin and tetracycline not recommended empirically. Utilization of the third generation of cephalosporin and new quinolone as the first line of treatment and the best antibiotics therapy was suggested.

Keywords: acute bacillary dysentery, shigellosis, antibiotic susceptibility, Tehran.