allied academies

Joint Event

Clinical Microbiology and Eye 2018, Volume 2
DOI: 10.4066/2591-8036-C1-003

7th European
Clinical Microbiology Congress
&
4th International Conference on
Ophthalmology and Eye Disorder
November 01-02, 2018 | London, UK

Salmonella Typhimurium and *Salmonella* Enteritidis infections in sporadic diarrhea in children: Source tracing and resistance to third-generation cephalosporins and ciprofloxacin

Zhougqiu Wei
Children's Hospital of Fudan University, China

Objectives: This study is aimed to trace the transmission source of *Salmonella* Typhimurium and *Salmonella* Enteritidis strains associated with enteric infections in Shanghainese children, and understand the molecular mechanism of resistance to third-generation cephalosporins and ciprofloxacin.

Methods: The profiles of pulsed-field gel electrophoresis (PFGE) were compared among the isolates from children, animal and environment. Antimicrobial susceptibility was determined using the minimal inhibitory concentrations and Kirby-Bauer disk diffusion method. Genes mediating extended-spectrum β-lactamase (ESBL) producing were identified using PCR and sequencing.

Results: Based on PFGE patterns, 49 (33.1%) of 148 human *Salmonella* Typhimurium isolates in the dominant PFGE clusters were genetically related to the isolates from poultry source, environment water, aquatic products and reptiles and 97(97.0%) of 100 human *Salmonella* Enteritidis isolates were genetically related to isolates from poultry and water. The rates of resistance to ceftriaxone among clinical *Salmonella* Typhimurium and *Salmonella* Enteritidis isolates were 42.0% and 14.2%, respectively. Besides, 35.1% of clinical *Salmonella* Typhimurium isolates were resistant to ciprofloxacin. The rates of resistance to cefotaxime and ciprofloxacin among *Salmonella* Typhimurium isolates from freshwater food animals and *Salmonella* Enteritidis isolates from pork meat were 13% and 69.6%, and 18.2% and 9.1%, respectively. Of the 64 ESBL/AmpC-producing strains, CTX-M, TEM, DHA and CMY were found in 86.0%, 62.5%, 7.8%, 3.1% and 3.1% of isolates, respectively.

Conclusions: The transmission sources of *Salmonella* Typhimurium and *Salmonella* Enteritidis infections in Shanghainese children were diverse. The high prevalence of resistance to third-generation cephalosporins and ciprofloxacin mediated by multiple molecular mechanisms need continuous attention and intervention.

e: zqwei0563@163.com