NONTYPHOIDAL SALMONELLA INFECTIONS IN CHILDREN WITH ACUTE GASTROENTERITIS: PREVALENCE, SEROTYPES AND ANTIMICROBIAL RESISTANCE IN SHANGHAI, CHINA

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Background and aims: Nontyphoidal Salmonella (NTS) infection is a leading cause of foodborne gastroenteritis. Information about Nontyphoidal salmonella (NTS) infection in children is limited in mainland China. The objective of this study was to investigate the prevalence, serotypes and resistance patterns of NTS infection in children in Shanghai.

Methods: All cases with a clinical diagnosis of bacterial gastroenteritis were enrolled from the enteric clinic of a tertiary pediatric hospital between July 2010 and December 2011. Salmonella isolation, serotyping and antimicrobial susceptibility testing were conducted by the microbiological laboratory.

Results: NTS isolates were recovered from 316 (17.2%) of 1833 cases. NTS infection was prevalent year-round with a seasonal peak during summer and autumn. The median age of children with NTS gastroenteritis was 18 months with 92.7% of cases occurring in children < 5 years. Fever and blood-in-stool were reported in 52.5% and 42.7% of cases, respectively. S. enteritidis and S. typhimurium were the most common serotypes. Antimicrobial susceptibility showed 60.5% resistant to ≥1 clinically important antibiotics. Resistance to ciprofloxacin and the third-generation cephalosporins was detected in 5.5% and 7.1%-11.7% of isolates, respectively.

Conclusions: NTS is a major enteropathogen responsible for bacterial gastroenteritis in Chinese children. Resistance to the current first-line antibiotics is of concern. Ongoing surveillance for NTS and control measures for drug resistance is needed to control this pathogen in Shanghai.