



# EPIDEMIOLOGY OF SALMONELLA SPP. GASTROENTERITIS IN CHILDREN OVER A SIX-YEAR PERIOD (2011-2016): DATA FROM A LARGE TERTIARY PAEDIATRIC HOSPITAL, ATHENS, GREECE

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## Introduction

*Salmonella* species is a common cause of illness worldwide. The aim of this study was to evaluate the epidemiology of *Salmonella* gastroenteritis in a pediatric hospital in Athens over a six-year period (2011-2016).

## Methods

Identification of *Salmonella* spp. isolates was performed by conventional methods and antimicrobial susceptibility testing by the disk diffusion method, according to the current CLSI guidelines. All isolates resistant to cefotaxime and/or ceftazidime were tested for extended-spectrum  $\beta$ -lactamases (ESBLs) by the double disk diffusion test. Serotyping of isolates was done by a slide agglutination method using specific antisera.

## Results

A total of 6,300 diarrheal stools from children with symptoms of gastroenteritis were examined during the specific time period. *Salmonella* spp. was isolated from 230 stool samples of an equal number of children with diarrhea (age range 0,56 months-14 years, median age 24 months, boys; 56%) were positive for *Salmonella* spp. during the six-year period (2011-2016). The most frequent serovars identified were *S. Enteritidis* (23.8%), followed by *S. Typhimurium* (18.9%). No apparent shift in any *Salmonella* serovar was observed through the study period (Chart 1). The resistance rates of all isolates for each year, starting from 2011 were as follows: ampicillin: 21.3%, 25.6%, 18.9%, 7.1%, 15.4%, 2.6%, total 15.8% ( $p=0.057$ ), cotrimoxazole: 4.3%, 13.2%, 10.5%, 3.5%, 7.7%, 2.6%, total 7% ( $p=NS$ ), nalidixic acid: 4.2%, 10.5%, 7.9%, 0%, 2.5%, 2.5%, total 4.8% ( $p=NS$ ), cefotaxime (ESBLs): 4.3%, 2.6%, 2.8%, 0%, 0%, 0%, total 1.8% ( $p=NS$ ), ciprofloxacin: 0% for all the years (Chart 2). In some cases, *Salmonella* spp was also isolated from blood cultures (n=13), cerebrospinal fluid (n=1), urine (n=6) and abdominal fluid (n=1). In ten cases of *Salmonella* gastroenteritis co-infection was observed with; *Campylobacter* spp. (n=4), *Aeromonas* spp. (n=2), Norovirus (n=2), Rotavirus (n=2).

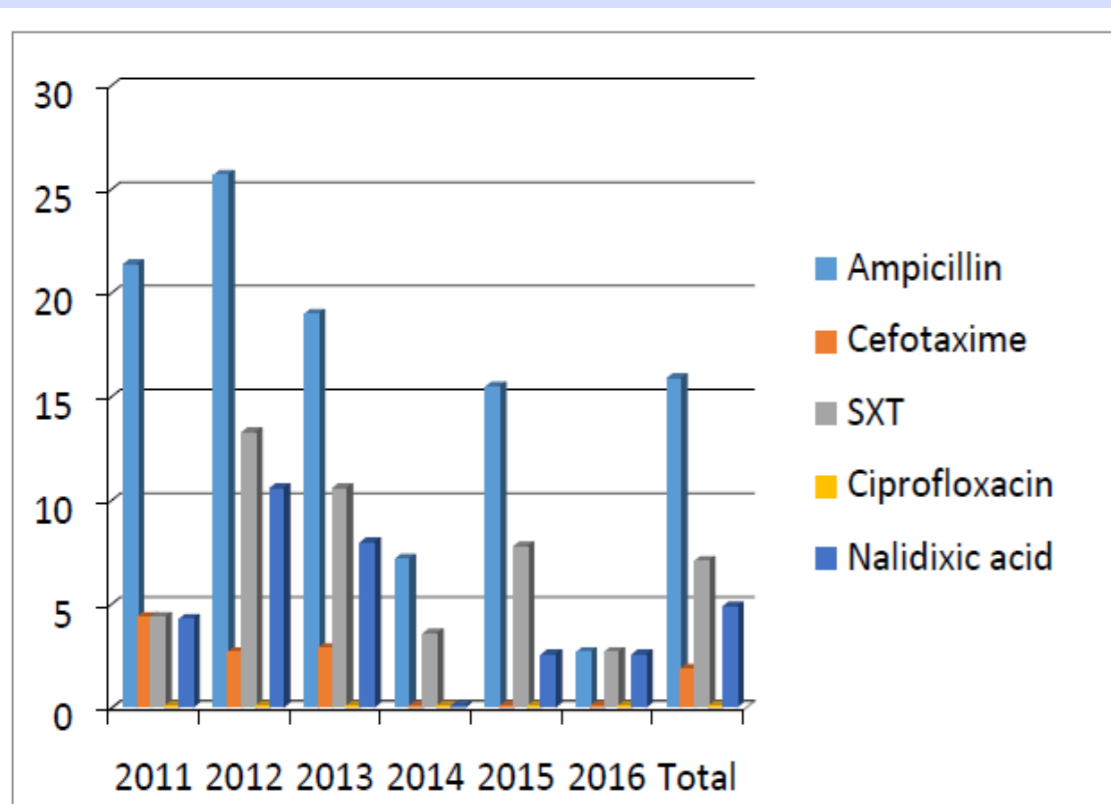
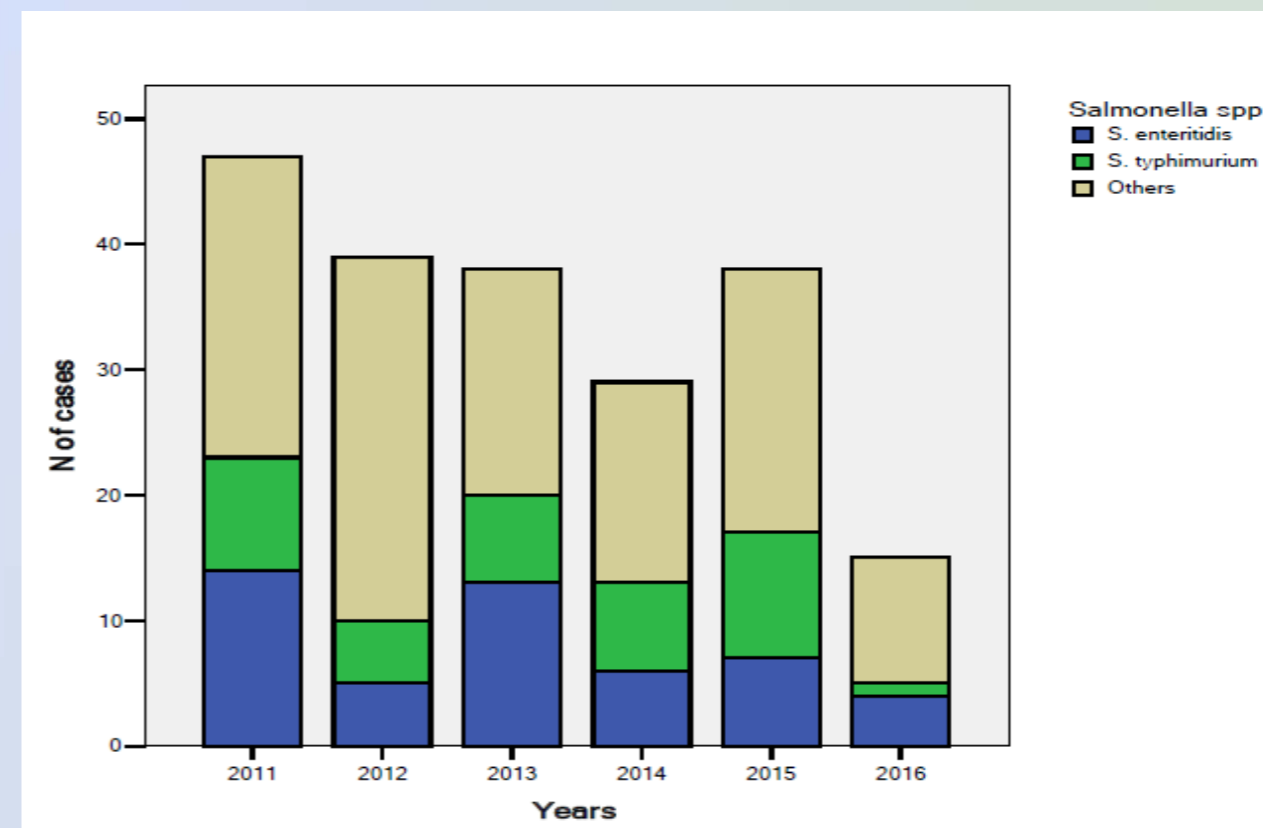


Chart 2.



## Conclusions

Cotrimoxazole remains the first empiric choice for management of *Salmonella* gastroenteritis. Since ESBLs detection remains in a low rate, third generation cephalosporins should be efficient for invasive and complicated cases.