Acute gastroenteritis and accompanied bacteremia caused by extended-spectrum beta-lactamase producing *Salmonella enterica* serovar kentucky sequence type 198: A case report from India

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ABSTRACT

Introduction: *Salmonella enterica* serovar Kentucky is polyphyletic serovar of non-typhoidal salmonella (NTS), which can cause infections by consumption of poultry products. The infections are usually self-limiting in immunocompetent individuals but causes severe invasive infections in immunocompromised, elderly and in pediatric population which requires immediate medical attention. Antimicrobial resistance among the NTS serotype Kentucky, sequence type ST 198 which has been reported globally since its emergence in northern Africa. In India, ST 198 clones resistant to fluoroquinolones have been documented. To the best of our knowledge, this is the first report of extended-spectrum beta-lactamase (ESBL)- producing *Salmonella enterica* serovar Kentucky which is multi locus sequence typed (MLST), from a case of acute gastroenteritis and accompanied bacteremia. **Case report:** A 55-year-old female presented to the emergency room with severe abdominal pain, diarrhea for two days and a high-grade temperature. She had a high total count with a negative Widal test. Stool culture and blood cultures were sent for microbiological analysis, which grew Salmonella. VITEK 2 system identified as Salmonella group. but could not biochemically differentiate it from *Salmonella paratyphi* B and *typhimurium*. The isolate was typed with polyvalent O sera and belonged to the serogroup C2. The isolate was sent to the regional laboratory for confirmation and MLST typing. The sequence type identified was ST 198. The susceptibility pattern revealed ESBL with first line drug resistant and susceptible to Co-trimoxazole. **Conclusion:** Patient recovered on day 5 of hospitalization after de-escalation of ceftriaxone and with addition of piperacillin – tazobactam in the regimen. The sequence type revealed the global travel of the bacteria. NTS has the strong ability to acquire resistance genes from other enteric bacteria in the gut where the possibility of the lateral gene transfer is high. These highlight the significance of NTS in the human infections.