

Summary

Salmonella enterica is one of the most commonly causes infections in human entitled Salmonellosis including: gastroenteritis, bacteremia, septicemia and enteric fever. *Salmonella enterica* regardless as important pathogen in people of all ages but the severe invasive disease in children.

The aim of this study is isolation of *Salmonella enterica* from diarrheal children in Thi Qar province and investigates its molecular characterization and antibiotic susceptibility.

A total of 300 stool samples were collected from children (1day-5years) suffering from diarrhea during the period from June 2015 to December 2015. All specimens were screened for the presence of *Salmonella enterica* by culturing on buffered peptone water, tetrathionate broth, XLD, S.S.Agar, brilliant green agar and Nutrient agar. The specimens were identified by biochemical tests, confirmed by API 20E system. The suspected *Salmonella* genus was sent to the Central Public Health Laboratories (National Center of *Salmonella* in Baghdad) "for serotyping diagnosis" and molecular identification by using *invA* gene.

The results revealed that: 24/300 (8%) gave positive growth for *Salmonella enterica*. The serotyping result of *S. enterica* has ensured that (24) *Salmonella enterica* isolates with (4) different serotypes were recognized. These serotypes isolates were (58.3%) of *S. Typhimurium*, (16.6%) of *S. Typhi*, *S. Enteritidis* (12.5%) and *S. Muenchen* (12.5%).

The results showed the age group of (1-5) years was the highest percentage for diarrheal cases (64.1%) and have the highest percentage for infection with *Salmonella enterica* (58.1%).

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The isolates were investigated for detection the presence of four virulence genes (*invA*, *sopB*, *sipB* and *spvB*) ,all isolates were appeared positive (100%) for *invA* gene, however, *sopB* gene was found in 66.6 % of isolates and *sipB* gene found in 87.5% of isolates while the lower percentage was (41.6 %) for *spv B* gene.

Plasmids DNA of *Salmonella enterica* isolates were extracted by using the alkaline lysis method which appeared several large and small plasmids were extracted from (91.7%)of the isolates and some isolates carried one or more plasmids.

All the 24 isolates of *Salmonella enterica* were screened for their antibiotic resistance against 15 antibiotics of different classes using Kirby-Bauer disk diffusion method. The results showed that all isolates were sensitive to the Amikacin and Gentamycin whereas all isolates were resistances to erythromycin; the most prevalent pattern included resistance to Moxiflox acid (50%) , Cefixim and Cefotaxim (37.5%), and to Trimethoprim-sulphamethoxazole, Amoxicillin- clavulanic acid and Ampicillin (33.3%).Furthermore, many isolates were resistant to Tetracycline and Chloramphenicol (29.1%), Ciprofloxacin and Nitrofurantion (25%) and Azithromycin (20.8%), while only 12% of isolates were resistances to Norfloxacin. The percentage of multidrug-resistant (MDR) bacteria was high (58.3%).