

Discussions

In the present study *shigella flexneri* was found to be the most frequent isolate in children with *shigellae* associated diarrhea in our study, rate in Baghdad with type 2 being the predominating serotype. These findings conform with several studies^(16,17,18), and other developing countries^(19,20,21), but they are in contrast with studies in developed countries where *shigella sonnei* is dominant and *shigella flexneri* is the second most prevalent isolate^(4,22,23). In some countries, *shigellae* were isolated more often from children older than 2 years of age than from younger children^(24,25,26). In our experience *shigella* spp. were isolated only from children who were not breast - fed and significantly more frequently from children older than one year of age⁽²⁷⁾. Human milk has been shown to protect against severe shigellosis in children up to 35 months of age⁽²⁸⁾. Studies showed that all milk samples obtained from mothers contained antibodies to antigens encoded by the large virulence plasmid in strains of *shigella*⁽²⁹⁾. In addition to this, children more than one year old are capable of moving around and come into more direct contact with other children and adults which expose them under certain circumstances, to infection with these organisms. Food and waterborne outbreak of shigellosis have been reported from different parts of the world^(8, 30, 31). Most (78%) of our patients with stools positive for *shigella* have used untreated drinking water. We found blood and mucus in the stools of 56% and fever in 67% of our patients. These clinical findings are in line with those reported by other investigators in under - developed countries^(19,20). Several investigators reported cases of generalized convulsions associated with shigellosis^(16,32,33). Of our patients, only

one (11%) had generalized convulsions and we believe this to be the first time such a case has been reported from Iraq which conform by Daoud *et al.*⁽¹⁶⁾, who studied 93 children with shigellosis and found 15% of the patients developed generalized convulsions. They reported that neither specific diagnostic procedures nor drug therapy were usually necessary due to benign and self – limiting nature of convulsions associated with shigellosis.

Antibiotics can be useful in the treatment of *shigella* – associated diarrhoea, however trimethoprim - sulphamethoxazole no longer to be considered the drug of choice in our hospital as the majority (89%) of the local isolates were resistant to this antibiotic. Several studies reported the same findings^(16, 17). AL - Eissa *et al.*⁽¹⁷⁾, from Saudi Arabia reported 74% of their *shigella* isolates were resistant to trimethoprim - sulphamethoxazole. All our isolates were sensitive to ceftriaxone, ciprofloxacin, nalidixic acid, norfloxacin and most of them to gentamicin, therefore they should be considered the drugs of choice for treatment of diarrhea due to *shigellae*. , however, susceptibility testing to antibiotics before administering the drug is recommended.

The present study shows that *shigellae* associated diarrhea in children is still a public health problem.

Shigella flexneri type 2 was the predominate serotype and most isolates were resistant to trimethoprim - sulphamethoxazole (89%), thus it no longer to be considered the drug of choice in the treatment of *shigellae* associated diarrhea in children below 3 years in our study.

Since all isolates were sensitive to ceftriaxone, ciprofloxacin, nalidixic