



## Dysentery in Children

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### Dear Editor-in-Chief

Bloody diarrhea or dysentery is recognized as intestinal inflammation, especially of the colon, resulting in abdominal pain, as well as severe diarrhea with blood or mucus in the feces. It is a major public health concern, especially in developing countries, associated with significant mortality and morbidity in children below five years.

*Shigella*, *Campylobacter*, *Salmonella*, *Schistosoma mansoni*, and *Entamoeba histolytica* are among bacteria and parasites causing dysentery. *Shigella* is responsible for most cases of this disease in tropical regions. Mortality during the epidemics of *Shigella dysenteriae* type I has been estimated at 6.2%. On the other hand, *Salmonella* is the main contributing factor for this disease in developed countries (1). Moreover, in some cases, it is associated with the protozoal agent of *Entamoeba histolytica* due to failure in the antibiotic treatment of suspected *Shigella* infection or observation of amoeba trophozoites consisting of red blood cells in the feces. In general, laboratory tests determine whether *Entamoeba histolytica* or *Shigella* is accountable for the infection.

Amoebicidal medications, e.g., metronidazole (Flagyl), are often used to treat amoebic dysentery. If unclear laboratory results are reported, both antibiotic and amoebicidal medicines may be necessary, depending on the severity of symptoms. Generally, it is important to consider effective antibacterial therapy to decrease the frequen-

cy of *Shigella* or other bacteria associated with dysentery in children. By reducing the bacterial load of children with dysentery, it is possible to decrease the possibility of fecal-oral transmission to other members of the household, neighbors, or friends.

In developing countries, antimicrobial therapy is of great importance, as prolonged episodes of diarrhea (e.g. dysentery) can negatively affect the nutritional status and growth of children. According to WHO, all diarrhea episodes with blood in the stool need to be treated with antibiotics. Currently, treatment using ciprofloxacin (not for children <8 yr) or a second-line antibiotic medication (i.e., azithromycin, pivmecillinam, or ceftriaxone) has been recommended.

Multidrug-resistant (MDR) *Shigella* species, which are resistant to more than two first-line antibiotics, including ciprofloxacin, co-trimoxazole, and ampicillin, are becoming a major global concern (2). Ceftriaxone is considered the best option for severe infections caused by MDR strains. On the other hand, azithromycin is used as an empirical treatment for severe dysentery before sensitivity and culture tests when MDR strains seem to reduce the disease morbidity. The selection of drugs should be in accordance with the community's resistance patterns, as some bacteria become resistant to antibiotics (3).



There has been a 99% reduction in the mortality rate of diarrhea due to treatment with ceftriaxone, ciprofloxacin, or pivmecillinam for bacterial pathogens; it may be even essential to conduct antibiotic susceptibility tests before treatment (3). Dehydration is more common in children under one year, infants not breastfed due to disease, and children with severe diarrhea and vomiting; therefore, rehydration is suggested through oral or intravenous routes. The child must continue a normal diet while increasing the intake of fluids. Nevertheless, fizzy drinks or fruit juices should be avoided, as they can deteriorate the child's condition. Normal breastfeeding or bottle feeds are encouraged for children at a higher risk of dehydration below six months of age. Therefore, complications and even death are more prevalent among children. Moreover, prompt treatment

through rehydration with antibiotics is essential for children with dysentery.

### **Conflict of interests**

All authors declare that there is no conflict of interest.

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