

Indian Academy of Pediatrics (IAP)



STANDARD TREATMENT GUIDELINES 2022



Acute Dysentery

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Acute Dysentery

Definition

A syndrome characterized by frequent small stools containing visible blood, often accompanied by fever, tenesmus, and abdominal cramps. Visible blood is essential for diagnosis. The definition does not include blood streaks on surface of formed stool or blood detected only by microscopic examination or biochemical tests.

- ☑ **Bacterial:** *Shigella* accounts for the highest incidence of dysentery in the age group of 1–4 years. *Salmonella*, *Campylobacter jejuni*, *Escherichia coli*, and *Yersinia enterocolitica* are some of the other bacterial agents.
- ☑ **Parasites:** Parasites are uncommon and *Entamoeba histolytica*, accounts for only 3–7% of cases.

Causative Agents

Pathogenesis mainly includes feco-oral transmission, but also person-to-person contact (in organisms requiring small inoculums for transmission). Pathogens usually invade and multiply within the intestinal epithelial cells and induce extensive destruction and inflammation producing ulcers and microabscesses that manifest with diarrheal stools containing blood, mucus, and pus.

- ☑ *Day 1:* High fever, crampy abdominal pain, emesis, toxicity, anorexia and malaise, watery diarrhea, and tenesmus. Abdominal distention and tenderness, hyperactive bowel sounds, and tender rectum.
- ☑ *Day 2:* Blood and mucus appears.
- ☑ *Day 2/3 onward:* In 50%, stool volume decreases with frequent passage of scanty blood and mucus. Untreated diarrhea may last up to 2 weeks. Bacteremia is an uncommon presentation. It is important to keep these differentials in mind while diagnosing dysentery (**Table 1**) and be aware of the complications (**Box 1**). **Flowchart 1** shows an algorithm for approach to a case of acute dysentery.

TABLE 1: Differential diagnosis in a child with bloody diarrhea.

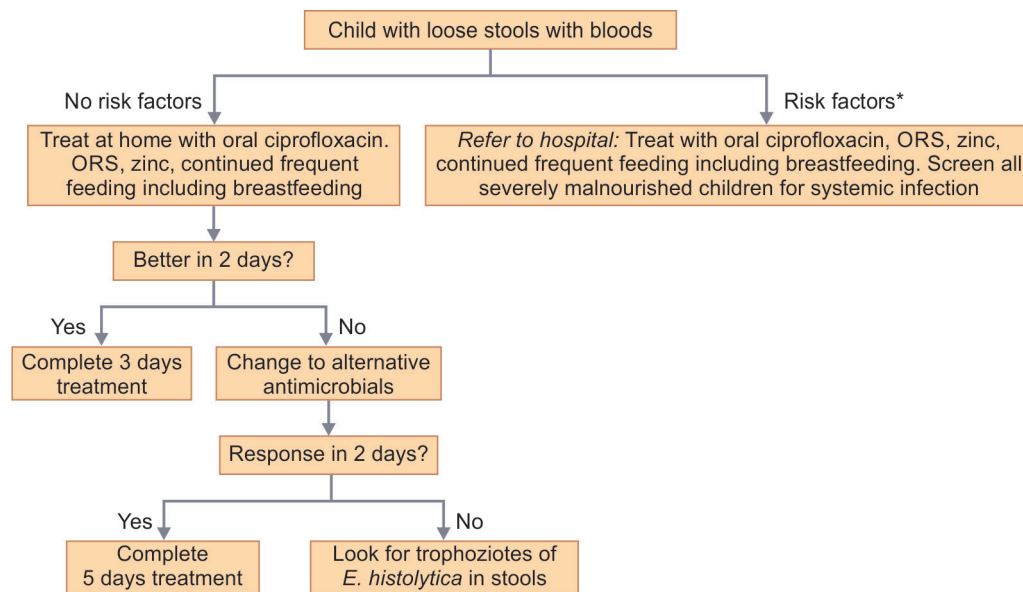
Intussusception	Severe paroxysms of pain, with child normal in between episodes
Ulcerative colitis	<i>Onset:</i> Adolescence and young adult extraintestinal manifestations
Meckel’s diverticulitis	2 years of life with painless bleeding
Eosinophilic gastroenteritis	Atopic features, elevated serum IgE, peripheral eosinophilia (AEC >660/mm ³)
Pseudomembranous colitis	Patient on antibiotics; recovers once offending drug is discontinued
Allergic colitis	Age <6 months, healthy baby, improves on removing allergen (usually milk) from diet and recurs on challenge

(AEC: absolute eosinophil count; IgE: immunoglobulin E)

BOX 1: Complications of acute dysentery.

- ☑ Neurological complications
- ☑ Seizures
- ☑ Hemolytic uremic syndrome
- ☑ Dehydration and dyselectrolytemia
- ☑ Hypocalcemia, hypoglycemia, and hypothermia
- ☑ Reiter's syndrome (with HLA B27)
- ☑ Nonsuppurative arthritis
- ☑ Protein losing enteropathy
- ☑ Toxic dilatation and colonic perforation
- ☑ Rectal prolapse
- ☑ Leukemoid reaction

Flowchart 1: Algorithm for approach to a case of acute dysentery.



*Age <1 year, dehydration, measles within last 3 months, severely malnourished, other risk factors

(ORS: Oral rehydration therapy)

- ✓ **Management of dehydration:** Chances of dehydration are more in infants and children with severe diarrhea and vomiting. They require intravenous fluids or oral rehydration therapy (ORT). Normal diet should be continued. Breastfeeding is necessary if the baby is <6 months.
- ✓ **Nutrition:** High protein and high caloric diet. Amylase resistant starches that mainly found in green bananas significantly decrease the stool volume.
- ✓ **Zinc:** Elemental zinc should be given for 14 days. It significantly decreases the duration of diarrhea and enhances the recovery.
- ✓ **Vitamin A:** A large single dose of vitamin A (200,000 unit) is recommended.
- ✓ **Antimicrobial therapy:** Antimicrobial therapy for shigellosis should be initiated as most cases of dysentery are caused by it and almost all severe cases are caused by it. Antimicrobials also decrease the probability of feco-oral transmission to the members of the household neighbors and friends. Currently treatment using ciprofloxacin or second-line antibiotic medication (i.e., azithromycin or third-generation cephalosporin) is recommended. *Shigella* is now mostly resistant to ampicillin and trimethoprim-sulfamethoxazole.

Multidrug-resistant (MDR) *Shigella* (resistant to more than two first-line antibiotics including ciprofloxacin, cotrimoxazole, and ampicillin) are becoming a major global concern. Ceftriaxone is considered the best option for severe infections caused by MDR strains and azithromycin can be used as empirical treatment for severe dysentery before the culture sensitivity tests. Choice of antibiotics should be according to the antimicrobial resistance pattern of the community and the locality (**Table 2**).

- ✓ **Amoebic dysentery:** Being rare, it is to be considered if two different antibiotics have been used without any sign of improvement or if microscopic examination of fresh stool specimen shows trophozoites of *E. histolytica* containing red blood cells (RBCs). Metronidazole is the drug of choice.

TABLE 2: Dose of commonly used agents in acute dysentery.

Ciprofloxacin	15 mg/kg po bid × 3 days
Cefixime	8 mg/kg once daily × 3 days
Ceftriaxone	50–100 mg/kg/day IV × 3 days
Azithromycin	12 mg/kg on day 1, followed by 6 mg/kg once daily for next 3 days
Cotrimoxazole	4 mg/kg/day of trimethoprim (TMP)*
Metronidazole	10 mg/kg/dose thrice a day po × 5 days

*If susceptibility known or likely based on local data.

There is no role for diphenoxylate hydrochloride with atropine (Lomotil) or loperamide and it is best to avoid fizzy drinks and fruit juices.

Further Reading

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