

Acute Diarrhea in Children

Ilimda Husniana

Regional Public Hospital Sawah Besar, Jakarta, Indonesia

ABSTRACT

Background: Acute diarrhea is the most frequent gastrointestinal disorder and the main cause of dehydration in childhood. Diarrhoea is the fifth leading cause of death in children under the age of five years and rotavirus is the leading aetiology in this age group. Six risk factors (childhood wasting, unsafe water, oral rehydration, unsafe sanitation, handwashing, and therapeutic zinc) can cause diarrhea death in sub-Saharan Africa. **Case:** a 7-month-old baby came to the hospital complaining of fever and diarrhea one day before. The patient was hospitalized because the baby's condition required observation. 16 days after hospitalization, the patient came back with complaints of diarrhea that had persisted for more than 2 weeks. **Conclusion:** Diarrhea in children requires special attention because even though it sounds trivial, if it is not handled properly it can cause serious problems, even death.

Keywords: diarrhea; children; hygiene

INTRODUCTION

Diarrhoea is defined as the passage of three or more loose or liquid stools per day or more frequent passage than is normal for the individual. Based on the duration of the presentation, it can be acute or chronic. When symptoms last for more than 2–4 weeks, the diarrhoea is termed persistent or chronic (1). Acute diarrhea is the most frequent gastrointestinal disorder and the main cause of dehydration in childhood (2). Childhood undernutrition, stunting, wasting, and underweight were among the leading risks for diarrhoea in children younger than 5 years (3). Diarrhea is the fifth leading cause of death in children under the age of five years and rotavirus is the leading aetiology in this age group (3). Six risk factors (childhood wasting, unsafe water, oral rehydration, unsafe sanitation, handwashing, and therapeutic zinc) can make a diarrhoea death in sub-Saharan Africa (3). Oral rehydration salts (ORS), particularly the low osmolarity formula, are a proven life-saving commodity for the treatment of children with diarrhoea (4).

CASE

On her first arrival, a 7-month-old baby came to the hospital complaining of fever since one day before. The patient went to the community health center for treatment yesterday, when the temperature was measured, it was 40°C. The patient's mother said the patient vomited when he was given food or drank milk. Apart from that, the patient's mother also complained that the baby was already diarrhea 4 times a day. There are no coughs and colds and urine decreased slightly. The patient was hospitalized because the baby's condition required observation. The patient was given parenteral rehydration fluids, zinc, ORS, probiotics, ranitidine, paracetamol, ondancentron, and antibiotics.

From laboratory results, it was found that bacteria and leukocytes were increased. After 5 days of hospitalization, the patient's condition improved and he was allowed to go home.

16 days after hospitalization, the patient came back with complaints of diarrhea that had persisted for more than 2 weeks. The patient also brought laboratory results which stated that he was anemic. After an examination, the pediatrician said that the diarrhea was due to an amoeba infection. Because the patient's condition is good, the patient can go home and be prescribed antibiotics, zinc, probiotics and blood supplement tablets.

DISCUSSION

Anamnesa that is important for evaluating the possible causes of diarrhoea :

- Patient's age.
- Background medical history and familial predispositions (e.g. IBD).
- Nature of stools and duration (separating acute from chronic diarrhoea).
- Recent illnesses.
- Associated symptoms include:
 - Abdominal symptoms such as vomiting, abdominal pain or distension, bloody or mucoid stools, history of previous constipation;
 - dietary review such as recent change, weaning, discontinuation of breast milk or formula, bottle hygiene, addition of new foods, exposure to unsanitary or raw food products;
 - constitutional symptoms such as fever, loss of appetite or weight, concomitant rash, oral ulcers and joint pains; and
 - symptoms related to hydration status, such as percentage of usual volume managed orally, oliguria, and lethargy.

- Contact history including exposure to unsanitary conditions, day-care attendance and sick contacts.
- Drugs or remedies taken and immunisations.
- Travel history (5).
- Personal hygiene (6). Children with poor personal hygiene are 1,286 times more likely to suffer from diarrhea than those with good personal hygiene (7).

After anamnesis, the doctor takes the physical examination that includes a general inspection of the health status of the child as well as his/her vital signs and growth parameters. Review recent weight values, if available, to check for any significant weight loss. Pay close attention to signs of dehydration such as restlessness, lethargy, altered mentation, skin turgor, and capillary reperfusion time. A sequential examination can then be undertaken, as follows:

- Abdominal examination: look for any tenderness, rebound, organomegaly, or masses.
- Stool examination: if possible, review the stools or pictures of recent stools, looking out for fresh or stale blood, mucoid stools or steatorrhea, and food particles.
- Signs of malnourishment such as muscle wasting, ascites, or oedema.
- Stigmata of chronic disease (5).

Oral rehydration therapy is a drug to treat dehydration in patients with acute, persistent, or chronic diarrhea who lack fluids in the body. Zinc supplement therapy reduces the duration, severity, frequency, and mortality of diarrhea in children aged less than five years who experience acute diarrhea. Moreover, probiotics help reduce the duration and intensity of diarrhea symptoms (8). In this case, the doctor still provided therapies other than oral rehydration therapy. The majority of the respondents combined oral rehydration therapy with intravenous rehydration therapy. The WHO stated that treating diarrhea aims to prevent dehydration, manage dehydration, prevent malnutrition, and reduce the severity, duration, and likelihood of future episodes. In the LINTAS DIARE guidelines, treatment plan B is given to patients with acute diarrhea and mild to moderate dehydration. However, fluid administration using oral rehydration therapy is prioritized (9).

CONCLUSION

Diarrhea in children requires special attention because even though it sounds trivial, if it is not handled properly it can cause serious problems, even death. The first thing we need to do as health workers if we find diarrhea in a child is to give oral rehydration and can continue with intravenous rehydration if the symptoms do not improve. Diarrhea in children requires inpatient treatment if after administering intravenous rehydration there are no signs of improvement in the condition. As members of the community, we can advise families of pediatric diarrhea patients to immediately seek treatment if they find signs of decreased urination or if the child appears weak and has difficulty drinking.

Death due to diarrhoea can be prevented if the patient is taken immediately to a health facility when there is diarrhea or there are signs of changes in physical condition due to diarrhea. What must not be forgotten is that families must participate in maintaining cleanliness so that they can reduce the incidence of diarrhea in children.

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