ARTICLE

ACUTE DIARRHOEAL DISEASE

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Diarrhoea is defined as the passage of loose, liquid or watery stool. Acute diarrhoea is defined as sudden onset of excessively loose stools of >10 ml/Kg/ day in infants and >200 g/24 hour in older children, which last <14 days. When the episode lasts > 14 days, it is called chronic or persistent diarrhoea.

When WHO initiated the Diarrhoeal Diseases Control Programme in 1980, according to their study approximately 4.6 million children used to die each year of the dehydration caused by diarrhoea. It is still a major killer of children under 5, although its toll has dropped by a third over the past decade. According to the 2012 survey, more than 1,600 children under 5 years of age die every day. It also shows that it is more occur among children less than 2 years of age. In India, acute diarrhoeal disease causes death around 8%, under the age of 5 years. During the year 2013, about 10.7 million cases with 1,535 deaths were reported in India.

Stool output of a young infant is approximately 5ml/Kg/ day. The greatest volume of intestinal water is absorbed in the small bowel; the colon concentrates intestinal contents against a high osmotic gradient. Disorders that affect the small intestine produce voluminous diarrhoea whereas as disorders compromising colonic absorption produce lower volume diarrhoea in children. In all diarrhoea case, the intestinal solute transport and water absorption are disturbed.

CLINICAL TYPES OF DIARRHOEAL DISEASE

Four clinical types of diarrhoea can be recognized, each reflecting the basic underlying pathology and altered physiology.

Acute Watery Diarrhoea which lasts several hours to days and the main dehydration and weight loss.

Acute Bloody Diarrhoea which is also called dysentery and the main damage is in the intestinal mucosa. Sepsis, malnutrition and dehydration are the main complications.

Persistent Diarrhoea they last for 14 days or longer. The main damage caused by it are malnutrition, serious non- intestinal infection, dehydration.

Diarrhoea with severe malnutrition and it cause severe damage by systemic infections, dehydration, heart failure, vitamin and mineral deficiency.

Clinical presentations and course of diarrhoea depends on its cause. In children, we should check the presentation of stool, for example, its consistency, colour, volume, frequency. Also see whether they present with any other associated complaints such as nausea, vomiting, fever, abdominal pain etc.

COMMON CAUSE OF INFECTION AND INFECTIOUS AGENT IN CHILDREN ARE;

Day care: The contaminated hands, communal toys and other classroom objects are the source of infection.Rotavirus, Astrovirus, Calicivirus, Campylobacter, Shigella, Giardia, Crypto sporidium are the agents.

Water exposure by the child in swimming pools, marine environment, camping areas etc.
Travelling history and ingestion of raw or contaminated foods may cause diarrhoea by the affection of Rotavirus, Shigella, Salmonella, Campylobacter spp, C.Perfringens, C. Botulinum.
Chlidren playing with cats, dogs or turtle may also get disease by the organisum Campylobacter spp, Salmonella spp
Drugs like antibiotic, immunocompromised drugs may cause diarrhoea in children.

SIGNS AND SYMPTOMS

Dehydration- lethargy, sunken anterior fontanel, dry mucous membrane, sunken eyes lack of tears, poor skin turgor, delayed capillary refill, depressed consciousness.
Failure to thieve and malnutrition. Abdominal pain or cramping. Borborygmi and perianal erythema.
On examination we could see the degree of dehydration by skin turgor, with pulse and blood pressure is measured. Urine output and ongoing stool losses should be monitored.

INVESTIGATIONS

Full Blood count and Serum Electrolytes indicates the degree of inflammation and dehydration. Stool inspection for blood and microscopy for leucocytes. Stool culture. Examination for ova, cysts and parasites.

Stool examination:

Blood and increased WBC in stool indicate Salmonella, Shigella infection, Amebiasis, Yersinia and Campylobacter infections. Watery stool indicate short bowel syndrome, celiac disease and rotavirus infection. Loose to normal appearing stool indicate pseudo- obstruction and blind loop. In irritable bowel syndrome, the stool will be loose to normal appearing; and in lactose deficiency, glucose-galactose malabsorption the stool will be watery and acidic with increased osmolality. Watery stool with normal osmolality seen in cholera, toxigenic E.coli, Crytosporidosis, Clostridium difficile.

DIFFERENTIAL DIAGNOSIS OF ACUTE DIARRHOEA

In infants, diarrhoea due to gastroenteritis, systemic infection, antibiotic associated or due to over feeding. In children, it is due to gastroenteritis, food poisoning, systemic infection and antibiotic associated symptoms.

MANAGEMENT

Identify the source of infection and then treat. Isolation of the child, to minimise the spread of the infection. History of food poisoning, water contamination should be encored. Fluid replacement should be done in both water and electrolytes. Oral rehydration solution(ORS) should be given to the child, it is effective as intravenous replacement fluid.
Access to safe drinking-water. Use of improved sanitation. Hand washing with soap. Exclusive breastfeeding for the first six months of life. Good personal and food hygiene. Health education about how infections spread.

RUBRIC REFERENCE

SYNTHESIS REPORTORY: RECTUM- DIARRHEA –children in (Pg.-976)

REPORTORY OF HERRING'S GUIDING SYMPTOMS OF OUR MATERIA MEDICA RECTUM – DIARRHEA – in children (Pg. - 892)

REPORTORY OF THE HOMOEOPATHIC MATERIA MEDICA RECTUM- DIARRHEA –children in (Pg.-611)

THERAPEUTIC INDICATIONS

ARSENICUM ALBUM: Small, offensive, dark, with much prostration. Worse at night, and after eating and drinking; from chilling stomach, alcoholic abuse, spoiled meat.

ALOE SOCOTRINA: Feeling of weakness and loss of power of sphincter ani. Sense of insecurity in rectum, when passing flatus. Uncertain whether gas or stool will come. Lumpy, watery stool. Jelly-like stools, with soreness in rectum after stool. A lot of mucus, with pain in rectum after stool. Burning in anus and rectum. Diarrhœa from beer. Abdomen feels full, heavy, hot, bloated. Pulsating pain around navel. Weak feeling, as if diarrhœa would come on. Colic before and during stool.

ANTIMONIUM CRUDUM: Diarrhoea after acids, sour wine, baths, overeating; slimy, flatulent stools. Stools composed entirely of mucus.

CALCAREA CARBONICA: Crawling and constriction in rectum. Stool large and hard; whitish, watery, sour. Diarrhœa of undigested, food, fetid, with ravenous appetite. Children's diarrhœa. Milk intolerance.

CHAMOMILLA: Hot, green, watery, fetid, slimy, with colic. Chopped white and yellow mucus like chopped eggs and spinach. Soreness of anus. Diarrhœa during dentition. Distended. Griping in region of navel, and pain in small of back. Flatulent colic, after anger, with red cheeks and hot perspiration. Hepatic colic.

CINA MARITIMA: Epigastric pain; worse, first waking in morning and before meals. Vomiting and diarrhœa immediately after eating or drinking. Vomiting with a clean tongue.
Twisting pain about navel. Bloated and hard abdomen. White mucus, like small pieces of popped corn, preceded by pinching colic. Itching of anus. Worms.

IPECACUANHA: Constant nausea and vomiting, with pale, twitching of face. Vomits food, bile, blood, mucus. Stomach feels relaxed, as if hanging down. Cutting, clutching; worse, around the navel. Body rigid; stretched out stiff. Pitch-like green as grass, like frothy molasses, with griping at navel.