

DIARRHOEA , DYSENTERIES

AETIOPATHOGENESIS, CLINICAL
PICTURE, DIAGNOSTIC TESTS,
TREATMENT, PREVENTIVE ASPECTS.

DIARRHEA

- DIARRHEA: this is the passage of stools with increased frequency, fluidity, or volume compared to the usual for a given individual. A reduction in segmental activity of the sigmoid colon lowers intraluminal pressure and peripheral resistance, permitting more rapid passage of intestinal contents. The number of stools varies from several per day to one every few minutes.
- Diarrhea is a symptom of underlying function or organic disease and is acute or chronic in nature.

- ACUTE DIARRHEA is characterized by the sudden onset of frequent stools of watery consistency, abdominal pain, cramping, weakness, and sometimes fever and vomiting. Since the duration is usually 24 to 48 hours nutritional losses are not a prime concern. Acute diarrhea may be the presenting symptom of systemic infection or chronic gastrointestinal disease such as regional enteritis or ulcerative colitis.
- Diarrhea is CHRONIC when it persists for 2 weeks or longer. Nutritional deficiencies eventually develop because the rapid passage of the intestinal contents does not allow sufficient time for absorption.
- **Mechanisms that increases fluid loss are**
 1. OSMOTIC, as when poorly absorbed water- soluble molecules remain in the intestinal lumen and retain water, for example, lactase deficiency or laxative abuse.
 2. SECRETORY, in which the mucosa of the large intestine is stimulated to secrete, rather than absorb fluids, as is cholera.
 3. EXUDATIVE, which is caused by the outpouring of serum proteins, blood, or mucus from sites of inflammation, as in inflammatory bowel disease.

DYSENTERY

- Dysentery is an intestinal inflammation, primarily of the colon.
- It can lead to mild or severe stomach cramps and severe diarrhea with mucus or blood in the feces.
- Without adequate hydration, it can be fatal.
- Infection with the shigella bacillus or bacterium is the most common cause.

SYMPTOMS

Signs and symptoms associated may include:

1. Loose, watery stools
2. Abdominal cramps
3. Abdominal pain
4. Fever
5. Blood in the stool
6. Mucus in the stool
7. Bloating
8. Nausea
9. Urgent need to have a bowel movement

CAUSES

- A number of diseases and conditions can cause diarrhea and dysentery, including
 1. **VIRUSES:** viruses that can cause diarrhea include Norwalk virus, cytomegalovirus and viral hepatitis. Rotavirus is a common cause of acute childhood diarrhea.
 2. **BACTERIA AND PARASITES:** contaminated food or water can transmit bacteria and parasite to your body. When traveling in developing countries, diarrhea caused by bacteria and parasites is often called traveler's diarrhea. Clostridium difficile is another type of bacteria that can cause serious infections that cause diarrhea, and it can occur after a course of antibiotics or during a hospitalization .

3. **MEDICATIONS:** many medications, such as antibiotics, can cause diarrhea. Antibiotics destroy both good and bad bacteria, which can disturb the natural balance of bacteria in your intestines. Other drugs that cause diarrhea are cancer drugs and antacids with magnesium.
4. **LACTOSE INTOLERANCE:** lactose is a sugar found in milk and other dairy products. People who have difficulty digesting lactose have diarrhea after eating dairy products. Lactose intolerance can increase with age because levels of enzyme that helps digest lactose drop after childhood.
5. **FRUCTOSE:** fructose is a sugar found naturally in fruits and honey. It's sometimes added as a sweetener to certain beverages. In people who have trouble digesting fructose, it can lead to diarrhea.
6. **ARTIFICIAL SWEETENERS:** sorbitol and mannitol- artificial sweeteners found in chewing gum and other sugar free products can cause diarrhea in some otherwise healthy people.
7. **SURGERY:** abdominal or gallbladder removal surgeries can sometimes cause diarrhea.
8. **OTHER DIGESTIVE DISORDERS :** chronic diarrhea has a number of other causes such as crohn's disease, ulcerative colitis, celiac disease, microscopic colitis and irritable bowel syndrome.

Diarrhea is generally not a disease by itself, but a symptom of an underlying functional or organic disease.

- **FUNCTIONAL DIARRHEA** results from an increase in the neuromuscular activity which may be brought about by any of the following:
 1. A disturbed emotional state due to worry, tension and anxiety.
 2. Irritation or inflammation of the mucous membrane by physical, chemical or bacterial agents such as in food poisoning.
 3. Sensitivity to a particular food as in allergies, leading to imperfect digestion.
 4. Nutritional deficiencies like pellagra, due to glossitis extending through the gastrointestinal tract.
 5. In association with achlorhydria leading to incomplete digestion and absorption.
- **ORGANIC DIARRHEA:** in organic diarrhea there are lesions or other structural changes in the mucosal lining of the small or large intestines. It may be caused by
 1. Bacterial infections as in typhoid or bacillary dysentery.
 2. Protozoal and parasitic infections like amoebiasis.
 3. Malabsorption syndromes
 4. Other diseases like ulcerative colitis, viral hepatitis, liver cirrhosis, tuberculosis, etc.

DIAGNOSIS

- **LABS AND TESTS** : in addition to a physical examination and taking your medical history, the doctors may also conduct some other test whis may include the stool test, blood test and imaging (flexible sigmoidoscopy or colonoscopy)
 - I. **STOOL TEST** : there are several test that may be conducted on the stool sample that you provide.
 - ❖ 1. **STOOL CULTURE**: this test examines stool for organisms that should not be present, or are present in too high of numbers. The culture will determine what organisms are present and if they could potentially be causing the problem.
 - ❖ **STOOL PANEL FOR GASTROINTESTINAL PATHOGENS**: this panel looks for genetic material of specific pathogens that commonly cause diarrhea.
 - ❖ **OVA AND PARASITES TEST**: this test looks for signs of a parasite living in the intestinal tract. A medical technologist examines the stool sample under a microscope for parasites and their eggs.
 - ❖ **FECAL FAT TEST**: this test looks at the fat level in stool. Fat in the stool may indicate a problem with the intestines and the ability to absorb nutrients.

- ❖ **FECAL OCCULT BLOOD TEST:** this test looks at the stool to see if there is blood present that cannot be seen with naked eye. It can determine if the presence of red colour in the stool is caused by blood or the consumption of naturally red or red dyed foods.
- II. **BLOOD TEST:** a complete blood count test can help indicate what's causing your diarrhea.
- III. **FLEXIBLE SIGMOIDOSCOPY OR COLONOSCOPY:** also known as imaging. Using a thin, lighted tube that's inserted in your rectum, your doctor can see inside your colon. The device is also equipped with a tool that allows your doctor to take a small sample of tissue from your colon.

TREATMENT

Because most cases of diarrhea resolve on their own within a day or two, self care to relieve symptoms is usually sufficient for treatment :

1. Avoid caffeine, dairy products, and greasy, high fiber , or sugary food.
2. Placing a hot water bottle or wheat pack on your stomach, or taking paracetamol, may provide some relief from abdominal cramps.
3. Apply zinc and castor oil ointment or a barrier cream to affected areas if you have rashes from diarrhea.
4. Avoid taking aspirins, ibuprofen or diclofenac, for pain relief as these medications can cause diarrhea.
5. Anti – diarrheal medications that slow diarrhea should be avoided as these drugs prevent your body from getting rid of bacteria or virus that may have caused the diarrhea.

To avoid dehydration, drink plenty of liquid every day, taking small, frequent sips. Example ORS.

Avoid certain foods such as dairy products, fatty food, etc.

Consider taking probiotics.

PREVENTION

- Hand wash is one of the most effective ways of preventing the spread of viruses and bacteria that cause diarrhea.
- Always wash your hands thoroughly after using toilet, changing nappies, and before meal.
- Also follow some precautions while preparing and handling food as this will prevent contamination.
- The most important way to avoid diarrhea is to avoid coming into contact with infectious agents that can cause it.
- Also it is very important to maintain hygiene.