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RESEARCH ARTICLE

Current Complications on Diarrhoea-A Review

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ABSTRACT

Diarrhoea is when you have frequent loose watery bowel motions. In most cases, symptoms resolve on their own within a couple of days without the need for medical treatment. Diarrhoea that lasts one (or) two days & goes away on its own is known as acute diarrhoea, which is a common condition that affects people of all ages. Diarrhoea lasting four weeks or more is known as chronic diarrhea & can be symptom of an underlying chronic disease or condition. **Acute Diarrhoea** : Acute diarrhoea is a common problem in children especially in poor & developing nations. It is one of the leading cause of under – five years mortality globally. **Objectives:** Prescribing trend of ORS & Zinc in acute diarrhea in children aged 6months to 5years by healthcare providers. To assess proportion of patient education in acute diarrhea by health care providers. **Conclusion:** There was gross under implementation of treatment guidelines in the management of acute diarrhoea by health care providers especially by general physician. **Chronic Diarrhoea:** Chronic diarrhoea is a frequent clinical presentation in our population. It may correspond to many gastrointestinal (or) Systemic pathologies. Most frequent causes are irritable bowel syndrome, functional intestinal disorders (Or) lachose intolerance, but organic diseases have also to be searched. Recommended management strategy:- In this the first goal should be categorize the diarrhea as being watery, inflammatory (Or) fatty. The laboratory tests performed by internist were of some value in this regard. The absence of fecal lenkocytes, fecal occact blood, blood & mucosal changes on sigmoidoscopy excluded chronic inflammatory diarrhoea from the differential diagnosis. additional preliminary studies needed included stool electrolytes to sort out secretary & osmotic forms or watery diarrhoea & measure of fecal fat excretion. **Conclusion:** Chronic diarrhoea is a challenging condition to evaluate & treat. By approaching each case individually & selecting an appropriate management strategy a long differential diagnosis can be made more manageable & the appropriate treatment can be ordered.

Keywords: Chronic diarrhoea, prescribing trend, Acute diarrhea, ORS, prescribing trend zinc

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1. Introduction

Appropriate management strategy. Diarrhoea is the condition of having at least three loose (Or) liquid bowel movements each day. The dehydration condition is seen & it often lasts for a few days signs of dehydration often begin with loss of normal stretchiness of the skin & irritable behavior. This can progress to decreased urination loss of skin colour, a fast heart rate & a decrease in responsiveness as it becomes more.

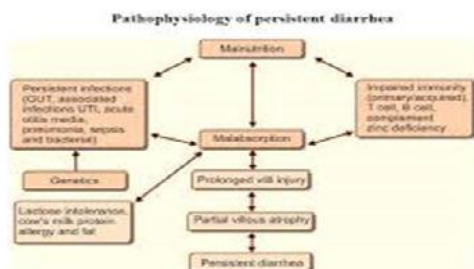


Figure 1

The most common cause is an infection of the intestines due to either a virus bacteria (Or) Parasite a condition also known as gastroenteritis a number of non –infections causes can result in diarrhea. These include lactose intolerance, irritable bowel syndrome, non- celiac gluten sensitivity celiac disease, inflammatory bowel disease, Hyperthyroidism, bile acid diarrhea & a number of medications. In most cases, stool cultures to confirm the exact cause are not required.

Diarrhoea can be prevented by improved sanitation clean drinking water & hand washing with soap. Breast feeding for at least six months & vaccination against rotavirus is (ORS) clean water with modest amount of salts & sugar is the treatment of choice. Zinc tablets are also recommended. It normally lasts 2 to 3 days & you can treat it with over the counter medicines. Each year diarrhea kills around 525000 children under five diarrhea is a leading cause of malnutrition in children under five years old. Diarrhoea is defined as the passage of three more loose (or) liquid stools per day (Or) more frequent passage than is normal for the individual. Frequent passing of formed stools is not diarrhea nor is the passing of pose, “Pasty” stools by breastfed babies. Children who are malnourished or have impaired immunity as well as people living with HIV are most threatening diarrhea at risk of life.

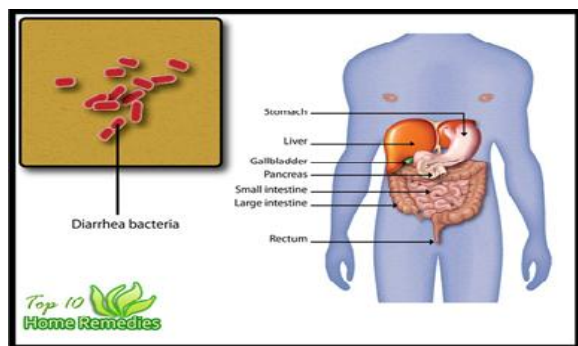


Figure 2

Classification:-Diarrhoea can be classified in two ways according to the length of time that the condition lasts or the possible cause or setting of the disease.

Based on Duration: If the symptoms come on suddenly but clear up in less than two weeks it is called acute diarrhea. Acute diarrhea is typically caused by bacteria, viruses (or) parasites. Persistent diarrhea is when the illness lasts for longer than four weeks, it is considered as chronic diarrhea. Although often caused by digestive disorders, chronic diarrhea can also occur due to other factors such as. Excessively consuming high amounts of alcohol caffeine, sugar or dairy. Taking certain medications, surgical procedure, Allergies, Tumors.

2. Types of Diarrhoea

It may also be classified according to the mechanism that the condition undertakes, although there may be an overlap b/w them.

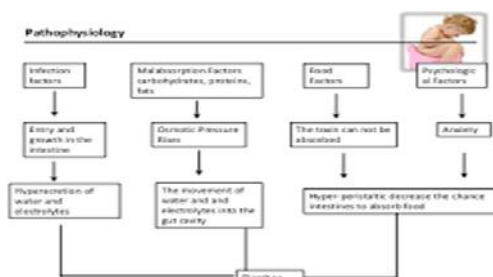


Figure 3

Osmotic Diarrhoea:

This form of diarrhea involves the retention of water in the bowel which results from the accumulation of non absorbable substances. For instance, Sugar substitutes like sorbitol & Mannitol can slow down absorption while causing rapid motility of the small intestine osmotic diarrhea can also be result of maldigestion, in which the nutrients are left in the human to pull in water (Or) it can be caused by osmotic laxatives. A person who has lactose intolerance in have difficulty absorbing lactose after an enter ordinarily high intake of dairy products. In most of the cases, osmotic diarrhea stops when the offending agent (eg:- milk, sorbital) is stopped.

Secretory Diarrhoea:

When electrolyte absorption is affected the body releases water into the small intestine, causing loose bowel movements. This type of diarrhea is often a result of infection or the intake of certain drugs secretory diarrhea means that there is an increase in the active secretion or there is an inhibition of absorption. There is little to no structural damage. In this to maintain charge balance in the GIT. Not is carried with it along with waters. It continues even when there is no oral food intake. In this type of diarrhea intestinal fluid secretion is isotonic with plasma even during fasting.

Exudate Diarrhoea:

Exudative diarrhea occurs with the presence of blood & purrs in the stool. This occurs with inflammatory bowel diseases, such as crohn’s disease (or) ulcerative colitis &

other severe infections such as e coli or other forms of food poisoning.

Motility related diarrhoea:

Hypermotility or the quick movement of food through the intestines, is a precursor for this type of diarrhoea. It occurs when the body lack time to absorb nutrients and water due to conditions like diabetic neuropathy (or) hyperthyroidism, or when a person under goes a surgery called a vagotomy.

Inflammatory Diarrhoea:

This occurs when certain pathogens like shigella, salmonella, campylobacter, Ecoli (or) clostridium difficile attack your intestinal cells. This is common in people with ulcerative colitis & crohn's disease. This can eventually lead to severe problems, such as seizures, urinary problems, heat injuries, kidney failure (or) hypolemic shock, can even be fatal. It occurs when there is which leads to passive loss of protein – rich fluids & decreased ability to absorb these lost. It can be caused by bacterial, viral, parasitic affections, or autoimmune problems such as inflammatory bowel diseases.

Other Types of Diarrhoea:

Aside from aforementioned conditions take note of these types of diarrhoea that can harm you (or) same one you know.

Explosive Diarrhoea: watery diarrhoea is expelled violently, along with gas. Bacterial infections are the common culprits of this type of diarrhoea.

Traveler's Diarrhoea: This disorder occurs when a patient consumes contaminated food (or) water.

The common indicators of this disease are abdominal cramps, nausea, vomiting & fever

Chronic fatty diarrhoea: Patients with only (or) fatty diarrhoea expel greasy (or) very bad smelling stools. This type of disease mainly arises after a patient eats fat fiber or potassium oxalate rich foods, nuts, oily & fatty fish artificial fats (or) alcohol, although some diseases, such as liver (or) kidney damage (or) failure, crohn's diseases celiac disease (or) gall stones may trigger oily (or) fatty diarrhoea too.

Burning Diarrhoea:

As its name implies, this type of diarrhoea causes a painful & burning sensation while passing stools. Burning diarrhoea typically develops after eating spicy foods, since a compound present in chilies called capsaicin may disrupt digestive tissue function. The burning feeling arises because the capsaicin is not broken down properly before it leaves the body. Other possible causes are:

- Failure to break down stomach acids, digestive enzymes & bile.
- Eating large, rough & seed containing foods that may damage rectal tissues.
- Physical trauma such as increased wiping of the buttocks when passing stool.
- Laxative abuse.

Foamy Diarrhoea:

Foamy diarrhoea may occur among people with celiac disease, but this condition may also indicate IBS, a Parasitic infection (or) Pancreatitis. In some cases, foamy stools may occur after abdominal surgeries, particularly those that involve removing a section of your small (or) large intestine.

Different Types of Stools:

Dark (Or) Black Tarry Stools:

These may result from upper GIT bleeding caused by ulcers, noncancerous tumors (or) acid reflux, caused bleeding esophagus sores. Foods like black licorice & blue berries, as well as iron supplements, may cause black stools too.

Green Stools: Consuming leafy green vegetables, green food coloring, iron –rich foods & supplements, or presence of bacteria strains (or) parasites can cause green stools.

Orange Stools: Yellow (or) orange food coloring & foods like carrots, glantro, collard greens, thyme & kale can lead to orange stools. Lack of bile (or) improper bile absorption due to conditions like diarrhoea, short bowel syndrome (or) irritable bowel syndrome (IBS) can also cause this.

Red Stools: These can be due to lower intestinal tract bleeding caused by hemorrhoids, colitis, polyps in the colon (or) non-cancerous tumours. Dietary factors include ingesting red food coloring, beers, cranberries (or) tomato juice (or) Soup.

White Stools: Lack of bile, which may signal a blocked bile duct can turn stools white. Taking antacids and anti diarrhoea medicines are also possible causes.

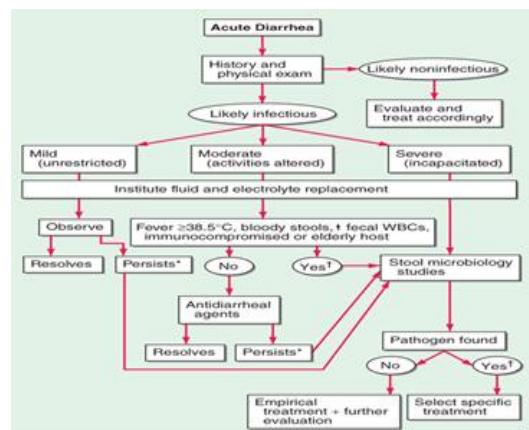
Yellow Stools: Increased amounts of fats in stool turn stools yellow. This occurs because of a malabsorption disorder like celiac disease & syndrome.

Gray Stools: Hepatitis gall bladder disorders (or) malabsorption diseases are possible causes.

Acute Diarrhoeal Diseases:

Acute diarrhoea can be caused by a number of different agents common infective causative agents include bacteria such as vibrio parahaemolyticus & salmonella & viruses such as vibrio parahaemolyticus & salmonella & viruses such as norovirus, rotavirus & sapovirus.

Clinical Features: Patients with acute diarrhoeal diseases present with sudden onset of frequent loose or watery stools, often accompanied by vomiting & fever. The disease is usually mild with spontaneous recovery. Dehydration & shock may occur in severe cases.



Source: J.L. Jameson, A.S. Fauci, D.L. Kasper, S.L. Hauser, D.L. Longo, J. Loscalzo: Harrison's Principles of Internal Medicine, 20th Edition Copyright © McGraw-Hill Education. All rights reserved.

Figure 4

Mode of Transmission: Acute diarrhoeal diseases usually spread by contaminated hands (or) ingestion of contaminated food or drinks and occasionally by aerosol spread with contaminated droplets of splashed vomitus. out

breaks may occur in settings like institutions & child care centres.



Figure 5

Incubation Period: The incubation period is usually a few hours to 5 days after exposure for bacterial diarrhoea 1-3 days for viral diarrhoea.

Management:

Acute diarrhoeal diseases are usually managed by fluid & electrolyte replacement patient should consult his/her family doctor for proper management if the diarrhoea is severe self-medication is not advisable.

Prevention:

Maintain good personal, food & environmental hygiene Adopt the 5 keys to food safety in handling food, i.e., choose (choose safe raw materials), clean (keep hands & utensils clean) separate (Separate raw & cooked food), cook (cook thoroughly) temperature) to prevent food borne diseases. Wash hands thoroughly with liquid soap & water before handling food (or) eating & after using the toilet or handling vomitus (or) faecal matter. Wear gloves when disposing of vomitus & faces & wash hands after wards. Cook all food, particularly seafood & shellfish thoroughly before consumption.



Figure 6

Chronic Diarrhoea: The diarrhoea that persists for more than two to four weeks. This is called chronic diarrhoea.



Figure 7

Symptoms of Chronic Diarrhoea:

The main symptom of chronic diarrhoea is loose (or) watery stools that persist for weeks. These stools may (or) may not be accompanied by a sense of urgency. Other symptoms as well, as 1) abdominal cramps. 2) bloating. 3) Nausea.

Causes: Inflammatory conditions that can cause loose, watery stools include ulcerative colitis and crohn’s disease. These conditions can also cause bloody stools & abdominal pain. Other causes of chronic diarrhoea may include. Mediations – NSAIDS, antibiotics, antacids. Diabetes, gluten insensitivity, alcohol abuse. If diagnostic tests don’t reveal an abnormality, your doctor may attribute chronic diarrhoea to irritable bowel syndrome (IBS).

Treatment for Chronic Diarrhoea:

Treatment depend on the underlying cause for Ex:- If you are diagnosed with a medical condition like pancreatitis, crohn’s diseases, ulcerative colitis, your doctor will discuss treatment options with you & recommend the best course of action. Treatment might include prescription medications like an immunosuppressant (or) a corticoid.

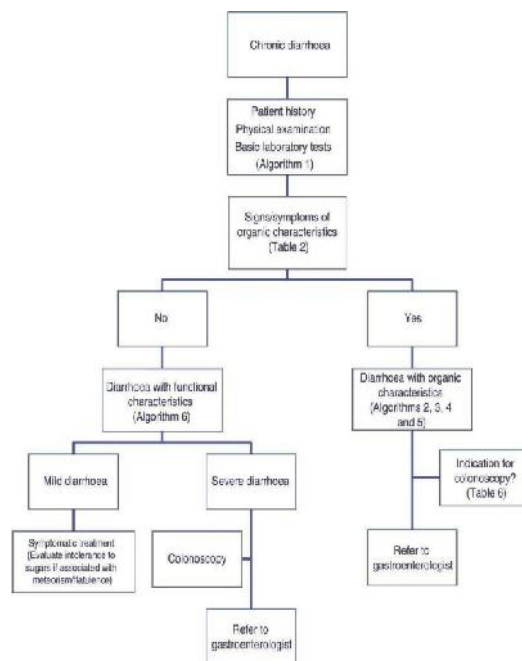


Figure 7

Life Style & Diet:

Keep a food journal to help determine whether diet is an underlying factor in chronic diarrhoea for example, diarrhoea may stop or significantly improve after stopping your intake of gluten, artificial sweeteners (or) dairy products.

Lifestyle Changes to help Resolve Chronic Diarrhoea Include:

- Avoiding caffeine & alcoholic beverages.
- Eating low fiber foods.
- Drinking clear fluids to prevent dehydration.
- Controlling food portions to avoid over eating.

Dedication:

Prescription medications containing codeine may also provide relief because they increase the time it takes stools

to pass through the digestive tract, resulting in bulkier stools. Over the counter medications such as bismuth (pepto-Bismol) and (operamide medium) also show the transit of stool, but they should only be taken on a short term basis.

Preventing Chronic Diarrhoea:

- Drink from a clean water source (or) filter your water.
- Thoroughly clean meat before cooking.
- Cook meat thoroughly.
- Clean kitchen surfaces to prevent contamination.
- Wash your hands after using the bathroom, changing a diaper (or) attending a sick person.

Complications of Chronic Diarrhoea: Dark urine, excessive thirst, dizziness, fatigue, vomiting, fever.

Diarrhoea Causes:

Sanitation:

Open defecation is a leading cause of infectious diarrhoea leading to death. Poverty is a good indicator of the rate of infectious diarrhoea in a population. The absence of certain resources compromises the ability of the poor to defend themselves against infectious diarrhoea. "Poverty is associated with poor housing, crowding, dirt floors, lack of access to clean water or to sanitary disposal of fecal waste (sanitation) cohabitation with domestic animals that may carry human pathogens and a lack of refrigerated storage for food, all of which increase the frequency of diarrhoea.

Water: One of the most common causes of infectious diarrhoea is a lack of clean water often, improper fecal disposal leads to contamination of ground water. Human faces contains a variety of potentially harmful human pathogens.

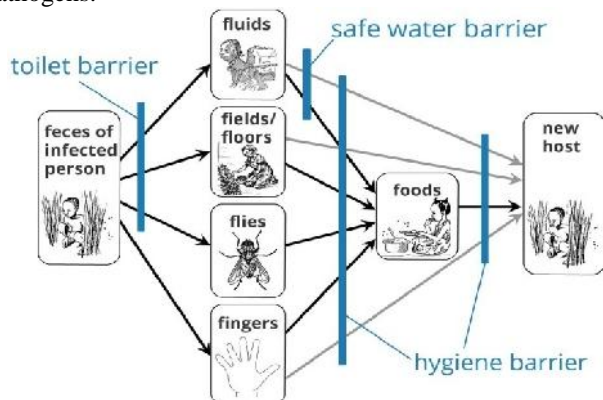


Figure 8

Nutrition:

Proper nutrition is important for health including the prevention of infections. Diarrhoea, zinc deficiency, a condition often found in children in developing countries, can, even in mild cases, have a significant impact on the development and proper functioning of the human immune system. Children who have lowered levels of zinc have a greater number of instances of diarrhoea, severe diarrhoea, & diarrhoea associated with fever.

Medications:

Some medications, such as penicillin, can cause diarrhoea. Over 700 medications are known to cause diarrhoea. The classes of medications that are laxatives, antacids, heartburn medications, antibiotics, antineoplastic drugs, anti-inflammatories, as well as many dietary supplements.

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Diagnostic Approach: The following types of diarrhoea may indicate further investigation is needed.

In infants: Moderate (or) severe diarrhoea in young children. Associated with blood. Continues for more than 2 days. Associated non-cramping abdominal pain, fever, weight loss etc.

3. Prevention and Management

Sanitation: Numerous studies have shown that improvements in drinking water & sanitation (wash) lead to decreased risks of diarrhoea. Such improvements might include high quality piped water & sewer connections. The same applies to preventing open defecation, open defecation at a community wide level and providing access to improved sanitation. This includes use of toilets & implementation of the entire sanitation chain connected to toilets.

Hand Washing:

Basic sanitation techniques can have a profound effect on the transmission of diarrhoeal disease. "Hand washing is integral to disease prevention in all parts of the world, however, access to soap & water is limited in a number of less developed countries.

Water:

Water contamination is a major means of transmitting diarrhoeal disease. Efforts to provide clean water supply & improved sanitation have the potential to dramatically cut the rate of disease incidence. Chlorine treatment of water, for example, has been shown to reduce both the risk of diarrhoeal disease and contamination of stored water with diarrhoeal pathogens.

Vaccination:

Immunization against the pathogens that cause diarrhoeal disease is a viable prevention strategy, however it does require targeting certain pathogens for vaccination. A rotavirus vaccine decreases the rates of diarrhoea in a population. New vaccines against rotavirus, shigella, enterotoxigenic & Escherichia coli (ETEC), & cholera are under development, as well as other causes of infectious diarrhoea.

Nutrition:

Zinc supplementation proved successful, showing a significant decrease in the incidence of diarrhoeal disease compared to a control group. The majority of the literature suggests that vitamin supplementation is advantageous in reducing disease incidence.

Breast Feeding:

Studies across a number of developing nations have shown that those who receive exclusive breast feeding during their first 6 months of life are better protected against infection with diarrhoeal diseases.

Others:

Probiotics decrease the risk of diarrhoea in those taking antibiotics.

Management:

In many cases of diarrhoea, replacing lost fluid & salts is the only treatment needed. This is usually by mouth "oral rehydration" therapy – or in severe cases, intravenously. Diet restrictions such as the BRAT diet are no longer recommended. Medications such as loperamide & bismuth

subsalicylate may be beneficial. However they may be contraindicated in certain situations.

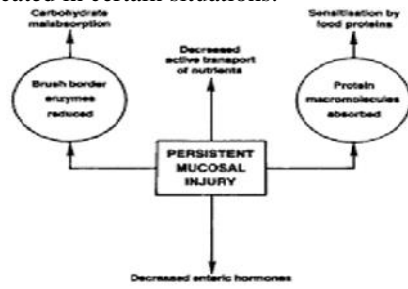


Figure 9

Fluids:

Oral rehydration solution(ORS) can be used to prevent dehydration standard hom solutions such as salted rice water, salted yogurt drinks vegetable & chicken soups with can be given. There are commercial solutions such as unific widely distribute packets of salts & sugar vomiting often occurs during the first hour (or) two of the solution.

4. Conclusion

Diarrhoea is when you have frequent loose watery bowel motions. In most cases, symptoms resolve on their own within a couple of days without the need for medical treatment. There was gross under implementation of treatment guidelines in the management of acute diarrhoea by health care providers especially by general physical. Chronic diarrhoea is a challenging condition to evaluate & treat. By approaching each case individually & selecting an appropriate management strategy a long differential diagnosis can be made more manageable & the appropriate treatment can be ordered.

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