

Gastro-Intestinal Disorders and its Complications

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Abstract

All diseases that are linked to the gastrointestinal tract are labelled as digestive diseases, which consists of diseases of the oesophagus, stomach, duodenum, jejunum, ileum, the ileo-cecal complex, large intestine (ascending, transverse, and descending colon), sigmoid colon, and rectum. Various problems of GI System include: gastritis/irritable bowel (IBS), ulcers, constipation, diverticulosis, diverticulitis, diarrhea, etc. These disorders have causative factors, like poor diet/nutrition and inflammation. Causes of GI disturbance include microbes, toxins, poor nutrient levels, physical damage to tissues, congestion, etc. A combination of these leads to irritation, inflammation, dysfunction.

GI disorders includes removal of the underlying factors, repair of damaged tissues, eliminating inflammatory reactions, simultaneously providing healing nutrients and probiotics.

Allergies are commonly observed in dairy, wheat and gluten. These can be eliminated with allergy elimination techniques and avoidance of the involved offenders.

Introduction

Symptoms of gastrointestinal distress are common among patients undergoing regular dialysis with almost 80 percent of dialysis patients reporting such complaints [1]. There is an increased frequency of both upper gastrointestinal tract disorders, such as gastritis/gastroparesis, and lower gastrointestinal diseases, such as diverticular disease/colonic perforation [2-6]. Although currently rare, idiopathic dialysis ascites, also known as nephrogenic ascites, is a peculiar condition that occurs exclusively in hemodialysis patients.

A review of gastrointestinal disorders in patients on dialysis with an emphasis upon those diseases that either occur with an increased frequency or are associated with severe complications is presented here.

Gastrointestinal Disorders

Gastrointestinal Disturbances

Overview of the Gastrointestinal (GI) System

The GI System, includes the oral cavity, pharynx, esophagus, stomach, small intestine, large intestine, rectum and anus. Main organs used in the function of the system are the liver, pancreas, appendix and gallbladder.

This system is involved in digesting and absorbing nutrients and

fluids, eliminating and detoxifying wastes, and is an integral part of the body's immune system. The immune-system function of the GI tract is facilitated by large oval lymph tissues lining the gut called Peyer's Patches and by multiple species of good bacteria that grow in the gut called probiotics.

A well-functioning Gastrointestinal (GI) System is critical for good overall health.

GI-System Problems & Related Disorders

The main problems associated with GI System include: gastritis, colitis, leaky gut, chron's disease, irritable bowel (IBS), ulcers, constipation, diverticulosis, diarrhoea. Factors affecting are poor diet/nutrition and inflammation.

Causes

- POOR DIET AND NUTRITION is a very common cause of GI System problems. Diets which is heavy in meat, starch, preservatives, chemicals is the main cause of GI disorders. Diets should have more fiber, enzymes including digestive enzymes, appropriate oils, complex carbohydrates.
- UNDERLYING CAUSES of GI disturbance include microbes, toxins, poor nutrient levels, physical damage to tissues, congestion, overuse. A combination of these leads to irritation, inflammation, dysfunction.

- THE CONTRIBUTING FACTORS to GI disorders maybe infections, excessive levels of HCl, enzymes, stress, poor levels of helpful bacteria, a poorly functioning liver, pancreas or gallbladder.
- IMMUNE INCOMPETENCE OR DYSFUNCTION along the gastrointestinal tract can leave the GI system and body poorly protected against parasites, toxins and a host of offending antigens from the outside world. Immune incompetence has been shown to be part of the inflammatory diseases known as Chron's and Colitis.

Treatment

GI disorders treatment includes repair of damaged tissues, and eliminating inflammatory reactions while simultaneously providing healing nutrients and probiotics.

Allergies are common to dairy, wheat and gluten and can be eliminated with allergy elimination techniques combined with avoidance of the involved offenders.

Dyspepsia: Dyspepsia occurs in patients with end stage renal disease (ESRD). In a study, dyspepsia suggestive of a reflux, ulcer, was reported in 12, 19, and 17 percent of patients, respectively [1].

Peptic Ulcer: Peptic ulcer is found to be a disorder of the upper gastrointestinal tract that occurs when gastric acid, bacteria, drugs, etc cause breaks in the mucosa, duodenum, and other digestive organs. Generally ulcers may develop in the esophagus, stomach, duodenum, or other areas of the GI tract. If you suspect you might have an ulcer, it's important to find out so it can be treated. Ulcers can lead to serious complications.

Patients with peptic ulcer disease may experience symptoms like mild abdominal pain, burning, bleeding, vomiting, etc. 30-35 percent of patients diagnosed with gastric ulcers will suffer serious complications, like bleeding, perforation.

There are acid-reducing drugs are available, making a great difference for patients.

Irritable Bowel Syndrome

Irritable bowel syndrome (IBS) is a GI affecting the normal functions of the intestines, causing recurrent abdominal pain, discomfort, diarrhea, constipation, etc. Patients with IBS react to stress, large meals, gas, medicines, certain foods, alcohol, etc.

IBS usually develops in adolescence/ early adulthood around age 21-26 and may not appear after the age of 50 or above.

Signs & Symptoms: Common symptoms of irritable bowel syndrome (IBS) are: abdominal pain, constipation, abnormal stool frequency, bloating, diarrhea.

Diagnosis: Diagnostic tests are used to rule out other disorders, including stool or blood tests, X-rays, endoscopy and colonoscopy. IBS have symptoms similar to GI disorders. So, Doctors use specific data/parameters to help make a definite diagnosis, which includes the following:

- Abdominal pain experienced for 12 weeks or so. These 12 weeks do not have to be consecutive.

Irritable Bowel Syndrome Treatment

Since stress and feeling mentally or emotionally tense, troubled, angry/overwhelmed may stimulate intestinal spasms in people with IBS, so doctor may suggest relaxation techniques, viz., yoga, exercise, meditation. A healthy diet should be consumed e.g., lots of water, fiber and small meals.

Fiber supplements/laxatives help with constipation, medicines to decrease diarrhea and control intestinal muscle spasms.

IBS maybe treated by Lotronex, Zelnorm

Constipation: Constipation is defined as infrequent and difficult passage of stools. Pregnant women and adults of the age of 65 and above are most commonly affected. Generally everyone experiences an occasional bout of constipation that is overcome with dietary changes and time. This may lead to other problems such as hemorrhoids.

Signs & Symptoms: Each person has a different extent of bowel movement, but if more than 3-4 days pass without a bowel movement, the contents in the intestines may harden, thus making it difficult to pass. Feeling of incomplete emptying comes under constipation.

Constipation is a symptom caused by many factors. Most common factors of constipations are poor diet, lack of exercise. Besides, other factors include IBS, pregnancy, hormonal disturbances, loss of body salts. Some medications cause constipation, e.g., pain medications, narcotics, antispasmodic drugs, antacids, antidepressant drugs, tranquilizers, antiparkinsonism drugs.

Some of the most common symptoms include

- The lack of a bowel movement for several days.
- Abdominal bloating, cramps or pain
- Decreased appetite
- Lethargy

Constipation Diagnosis

Generally the patient will be asked about medical history, a physical examination will be performed and routine blood, urine and stool tests will be done. Various other tests done are sigmoidoscopy and colonoscopy.

Sigmoidoscopy

Colonoscopy is used for sigmoidoscopy. It is a long, flexible tube that is as thick as an index finger; it has a tiny video camera and light on the end. It examines the rectum and lower part of colon. In sigmoidoscopy, the blood pressure, pulse and the oxygen level in blood is monitored.

A rectal examination of the patient will be done with a gloved, lubricated finger; then the lubricated colonoscope will be gently inserted. As the scope is slowly and carefully passed, patient may feel like moving the bowels; air is introduced to help advance the scope. The doctor may advance the scope until he or she has examined the left side of the colon. Then, the scope is carefully withdrawn and a thorough exam of the colon is done. The procedure takes between 14-15 minutes.

Colonoscopy

Colonoscopy is done to evaluate symptoms such as abdominal pain, bloody bowel movements, altered bowel habits (constipation/diarrhea). The term "colonoscopy" means looking inside the colon. Colonoscopy is a procedure done by a gastroenterologist.

Colonoscopy is performed using a colonoscope, a flexible tube that is about as thick as the index finger and has a tiny video camera and light on the end, to exam the rectum and lower part of the colon. The blood pressure, pulse and the oxygen level in the blood will be carefully monitored.

Gastroenterologist can adjust the instrument to carefully examine the inside lining of the colon from the anus to the cecum. The colonoscope has a channel that allows instruments to be passed to take tissue samples, remove polyps, provide different therapy. High quality picture from the colonoscope, shown on a TV monitor, provides a clear, detailed view of the colon.

Patients will be examined inside the rectal with a gloved, lubricated finger; then the lubricated colonoscope will be gently inserted. As the scope is slowly passed, patient feels as if he needs to move the bowel, air is introduced to help advance the scope. The doctor will advance the scope until he or she reaches the beginning of the colon, the cecum. After reaching this point, the scope is withdrawn while a thorough exam of the colon is done. Then, doctor will use the colonoscope to look closely for any polyps /other problems. The procedure requires 14-15 minutes.

Treatment: Treatment for constipation is dependent on the following 3points/factors: cause, severity and duration. For treatment, patient should consume a well-balanced diet like fiber-rich foods, whole-grain bread, fresh fruits, vegetables. Ideal diet is to take 20 to 35 grams of fiber each day. Besides this, drinking plenty of fluids and exercising regularly helps stimulate intestinal activity.

Laxatives are recommended for those who are still suffering from the condition even after making diet and lifestyle changes.

Crohn's Disease: Crohn's disease causes inflammation of the small intestine. This disease most commonly affects the last part of the small intestine, the ileum, and the large intestine, including the colon and rectum. Crohn's disease is considered as chronic condition because it may recur at various times throughout your lifetime, with periods of remission in which you are free of symptoms.

This disease occurs in people of all ages, though most are diagnosed before the age of 30 or so. It may also affect young children and older people. This disease occurs commonly in people living in northern climates and affects men and women equally. The condition can be inherited. About 25percent to 30 percent of those with Crohn's disease have a close relative who also has the disease or the related condition, ulcerative colitis. The cause of Crohn's disease is not clear yet. The immune system's response to certain viruses/bacteria that cause inflammation of the intestines is the primary cause of the disease.

Signs & Symptoms: Common symptoms of Crohn's disease include the following

- Loose, watery or frequent bowel movements
- Abdominal cramps and pain

- Fever
- Rectal bleeding

Crohn's Disease Diagnosis: Patient is asked about the medical history and perform a physical evaluation. A series of X-rays, laboratory tests, endoscopy, and pathology tests are used. These may include the following:

- Blood Tests: Blood tests are performed to check for anemia, which may indicate bleeding in the intestines. Blood tests detects a high white blood cell count, indicative of a sign of inflammation in the body.
- Stool Sample: By testing a stool sample, the doctor tells if there is bleeding or infection in the intestines.
- Small Bowel Radiograph: For this test, patient has to drink barium that coats the lining of the small intestine, before X-rays are taken. The barium and irregularity of the border between the barium and intestine indicates white on X-ray film, revealing inflammation o in the intestine.
- Colonoscopy: "Colonoscopy" means looking inside the colon. Colon is last portion of your digestive tract. Main function: absorption of water and storage of unabsorbed food products prior to their elimination. Colonoscopies are performed by a gastroenterologist.
- The procedure is performed using a colonoscope. It is a long, flexible tube that is about as thick as index finger, has a small video camera and light on the end. By adjustment of various controls on the colonoscope, the gastroenterologist can carefully examine the inside lining of the colon from the anus to terminal ileum.

Colonoscope has a channel, allowing the instruments to be passed in order to take tissue samples, remove polyps. The high quality picture from the colonoscope is shown on a television monitor. It is a more precise examination than X-ray studies. So, colonoscopy help doctors assess whether surgery is necessary, and also what type of surgery may be needed.

Crohn's Disease Treatment: There are a number of treatment options available.

Drug Therapy

Drugs are used to suppress the inflammatory response of Crohn's disease. When the symptoms are under control, medications are used to prevent symptoms from recurring. Various types of drugs are available to treat Crohn's disease such as aminosalicylates, corticosteroids, and immune modifiers.

Surgery

Surgery is done when medications become ineffective or there is a complications. Surgery may remove the diseased part of the bowel. Two healthy ends of the bowel are then joined together. Since surgery is not curative, it is used to remove little diseased part of the bowel.

Ileostomy

Surgeon creates a small opening in the abdomen, stoma, to which he attaches the end of the small intestine, the ileum. Waste material travels through the small intestine and exit the body through the stoma. A pouch is worn over the opening to collect waste and the patient empties the pouch as needed.

Nutrition Supplementation

Doctor recommends nutritional supplements. Some patients may need to be fed intravenously from time to time.

Diarrhea: Diarrhea is an abnormal increase in the frequency, volume, flow in stools. Condition lasts a few hours to a 3-4days. Diarrhea is associated with abdominal cramps. Common causes are viruses, bacteria, parasites, etc.

Diarrhea Signs and Symptoms: Diarrhea is an abnormal increase in the frequency, volume of stools. The condition usually lasts for a few hours to 2-3days. Diarrhea is associated with abdominal cramps.

Common causes of diarrhea include

- Viruses
- Bacteria
- Parasites

Other causes include medications, e.g., antibiotics that disturb the natural balance of the bacteria in the intestines, artificial sweeteners and lactose.

Diarrhea persisting for more than 2-3days is considered chronic, may be a sign of an underlying condition, such as inflammatory bowel disease. In such cases, diarrhea is likely result in dehydration. Dehydration occurs when the body has lost too much fluid and electrolytes. The fluid and electrolytes lost during diarrhea has to be replaced promptly.

Signs and symptoms of diarrhea are: frequent loose, watery stools, abdominal cramps, abdominal pain, fever, bleeding, lightheadedness/dizziness. Diarrhea caused by a various infections, cause vomiting.

Diarrhea Diagnosis: Patients will be asked about the medical history, a physical examination will be performed and order routine blood, urine and stool tests may be done. Other diagnostic tests are sigmoidoscopy and colonoscopy.

Sigmoidoscopy

Colonoscope is used for sigmoidoscopy. It is a flexible tube that is about as thick as the index finger. It has a tiny video camera and light on the end. It examines the rectum and lower part of colon. In this sigmoidoscopy, the blood pressure, pulse and the oxygen level in blood is monitored.

A rectal examination of the patient will be done with a gloved, lubricated finger; then the lubricated colonoscope will be gently inserted. As the scope is slowly passed, patient feels like moving his bowels, air is introduced to help advance the scope. Then, the doctor may advance the scope. Later on, the scope is then carefully withdrawn while a thorough exam of the colon is done. The procedure takes between 14-15 minutes

Colonoscopy

Colonoscopy is done for symptoms such as abdominal pain, bloody bowel movements, altered bowel habits (constipation/diarrhea). There is similarity between Colonoscope and sigmoidoscopy, but the doctor looks at the entire colon, rather than just the left side. The term "colonoscopy" means looking inside the colon.

Colonoscopy is a procedure done by a gastroenterologist.

Colonoscopy also is done using a colonoscope, flexible tube that is about as thick as the index finger and has a tiny video camera and light on the end, to exam rectum and lower part of the colon. The blood pressure, pulse and the oxygen level in the blood will be carefully monitored.

The gastroenterologist can safely handle the instrument to examine the inside lining of the colon from the anus to the cecum by adjusting various controls on the colonoscope. The colonoscope consists of a channel that allows instruments to be passed in order to take tissue samples, remove polyps, etc. The high quality picture from the colonoscope, shown on a TV monitor, provides a clear, detailed view of the colon.

Patients will be examined inside the rectal with a gloved, lubricated finger; then the lubricated colonoscope will be gently inserted. As the scope is slowly and carefully passed, patient feels as if he needs to move the bowel, air is introduced to help advance the scope. The doctor will advance the scope until he or she reaches the beginning of the colon, the cecum. Then, the scope is withdrawn. Doctor uses the colonoscope to look closely for any polyps or other problems that may require evaluation, diagnosis, treatment. The procedure requires between 14-15 minutes.

Treatment: Diarrhea resolves in 2-4 days, and latest within 1-2 weeks. The only treatment is preventing dehydration, done by drinking replacement fluids and an electrolyte mixture. Proper amount/ of minerals viz., sodium, magnesium, calcium, potassium are essential in maintaining the electrical pacing of heartbeat. Disruption of the body's levels of fluids and minerals creates a serious electrolyte imbalance.

Medicines that stop diarrhea should not be used for people whose diarrhea is caused by bacterial infection or a parasite because they may prolong the infection.

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