e-ISSN: 2319-9865
p-ISSN: 2322-0104

Research and Reviews: Journal of Medical and Health Sciences

An Overall Systematic Review of Gastro-intestinal Disorders

Sasidhar R*

Department of Pharmaceutics, Vignan institute of Pharmceutical sciences, Visakhapatnam, India

Short Commentary

Received: 07/05/2015
Accepted: 29/05/2015
Published: 06/06/2015

*For Correspondence

Corresponding author affiliation.

Sasidhar R, M. Pharmacy, Department of Pharmaceutics, Vignan institute of Pharmceutical sciences, Visakhapatnam, Andhra Pradesh, India, Tel: 9908222227; E-mail: sasidharrajana@gmail.com

ABSTRACT

The gastro-intestinal disorders are the most frequent conditions observed in the gastro-enterology practice. These disorders include gastric cancer, ulcerative colitis, colorectal cancer, peptic ulcer, gastroenteritis, appendicitis etc. and are occurring with increasing frequency. Various factors including changes in food habits, usage of drugs like cannabis products, malabsorption disorders, previous bowel surgery etc. have a high impact for the occurrence and prevalence of the gastro-intestinal disorders. This review discusses in detail about the various emerging gastro-intestinal disorders and their effects.

Introduction

Gastro-intestinal disorders are the diseases involving gastro-intestinal tract including esophagus, stomach, small intestine, large intestine and rectum, and the accessory organs of digestions, the liver, gallbladder, and pancreas. Some of the types of disorders include,

1. Gastric cancer
2. Ulcerative colitis
3. Colorectal cancer
4. Peptic ulcer
5. Gastro-enteritis
6. Appendicitis

Gastric cancer

Gastric cancer (GC) is a common worldwide. In Asia, its incidence is high. Adenocarcinoma comes under the major type of GC, and it is classified into intestinal-type GC (IGC) and diffuse-type GC (DGC). Helicobacter pylori (HP) [1] infection is the causative organism for GC carcinogenesis [2]. It is diagnosed in nearly one million individuals each year and is regarded as the second leading cause of cancer-caused deaths in the world [3]. It is defined as an asymptomatic disease, hence it is diagnosed late.

The symptoms of gastric cancer include gastritis [4], polyps formation, long lasting anaemia, loss of appetite, gastric ulcer [5], nausea etc.The diagnosis of gastric cancer can be done by upper endoscopy [6], upper GI series test, CT scan, Biopsy, laprascopy [7] etc.

Treatment of gastric cancer includes systemic chemotherapy and radiotherapy [3]. In western countries, gastric cancer is mostly diagnosed in advanced cancer tumor categories in contrast with eastern countries where most of the cases are of early cancer (about 50%) [7]. Until now, surgical treatment continues to be the most efficient treatment and other modalities like chemo- or radiotherapy are found to be more effective.

e-ISSN: 2319-9865
p-ISSN: 2322-0104

The circumstances of discovery of the gastric cancer are represented by clinical signs evolved in type of pyloric stenosis, loss of weight, digestive bleeding or anemia and they translate the long delay of consultation

Ulcerative colitis: Ulcerative colitis is the most common Inflammatory Bowel Disease (IBD) and is the chronic recurrent condition which is characterized by intestinal inflammation resulting from a complex interaction between environmental and immune factors [8]. It is broadly recognized by chronic inflammation of the rectal and colonic mucosa [9]. Its symptoms include bloody diarrhea, abdominal cramping, tenesmus and urgency.

A diagnosis of UC can be determined by colonscopy and biopsies. Treatment can be induced by, anti-metabolites, corticosteroids, methotrexate and the newer option of adhesion molecule inhibitors. Many of these medicines are associated with complications. In the management of UC patients, it is the goal of the healthcare provider to improve quality of life with the least amount of drug induced side effects [10].

Colorectal cancer

According to the American Cancer Society (ACS), colorectal cancer is the third leading cause of cancer deaths in the United States when looking at gender individually [11]. The Centers for Disease Control estimated that in 2008, over 142,000 people were diagnosed with this disease, out of which 73,000 being male and 69,000 female. Approximately 52,000 people died from this disease [12].

Colon Cancer is defined as cancer of the cecum, ascending, transverse, descending and the sigmoid colon. Cancers that form in the last inches of the large intestine, closest to the anus is defined as rectal cancer [13]. Different diagnostic techniques for colorectal cancer include flexible sigmoidoscopy, colonoscopy, double-contrast barium enema, CT colonoscopy, fecal occult blood test, as well as a fecal immunochemical test all tests are equally quick and provide no absolute risk detection to the colon [14].

Treatment for colon and rectal cancer are mainly surgery, radiation therapy, chemotherapy and targeted therapy out of which surgery being the most effective and common treatment [15].

Gastroenteritis: Diarrhea is the third leading cause of death related to infectious diseases worldwide, the rate of death due to diarrheal diseases is estimated as two million a year. All types of bacteria, parasites and viral pathogens are considered among the causes of infectious gastroenteritis [16]. The viruses causing gastroenteritis in humans include rotaviruses, caliciviruses (norovirus and sapovirus), astroviruses and enteric adenoviruses. Of all the viruses, Noroviruses (NoV) are major causes of acute nonbacterial gastroenteritis [17].

Rotavirus is also the most common cause of severe acute gastroenteritis in infants and young children. The World Health Organization (WHO) has recommended the inclusion of rotavirus vaccines into all the national immunization programmes. Two oral live rotavirus vaccines, Rotarix and RotaTeq have been licensed in Europe since 2006 and have been available in the Spanish market since then [18].

Gastroenteritis symptoms include diarrhea, nausea, vomiting, abdominal cramps, headache and low-grade fever [19].

Direct and immune electron microscopy (EM) were used to detect the presence of NoV in faecal specimens. Alternatively, ELISA tests using Ad specific antibodies have been shown to be a sensitive method for the determination of enteric adenoviruses. Specific real-time reverse transcription -PCR assays (multiplex quantitative PCR) is also used to detect norovirus ,porcine adenovirus and human adenovirus species C and F, which are excreted by infected humans, pigs, cattle, sheep [20].

Peptic ulcer: It is the causative disease of acute upper gastrointestinal bleeding accounting for about 35-50% cases of non-variceal haemorrhage [21]. It is known to be clinical and economic burden and it is estimated that 1 billion of dollars is spent annually in the United States on this disease [22]. Management of peptic ulcer has been improved over the past decades by the introduction of acid suppressive therapy with especially proton pump inhibitors (PPIs)] and endoscopic therapy [23].

There are three groups of agents that have been used to reduce the risk of bleeding[21]:

(a) acid suppressing drugs,

(b) somatostatin and its analogue octreotide and

(c) antifibrinolytic agents.

Appendicitis: Acute appendicitis is one of the most common surgical emergencies. Early diagnosis and prompt surgical treatment can help in minimizing the risk of the disease and further avoids the complications [24].

The symptoms include dull pain near the navel or the upper or lower abdomen [25], loss of appetite, nausea or vomiting, abdominal swelling, constipation etc. With advanced imaging and computed tomography (CT), it has become easy for evaluating patients with abdominal pain. Computerized tomography techniques have been in use for more than 30 years and are almost uniformly available in all hospitals across United States. Accurate diagnosis of acute appendicitis remains a challenge in emergency medicine for children who may not be able to articulate their symptoms well [26].

Ampicillin, Gentamicin, and Clindamycin (AGC) regimens are the standard triple antibiotic therapy for complicated appendicitis, which provide broad-spectrum coverage for both aerobic and anaerobic gram-positive and gram-negative bacteria [27].

Irritable Bowel Syndrome (IBS): It is the most prevalent and highly incident disease. Diseases of the digestive system are divided into two broad categories: organic and functional diseases [28]. The former are characterized by anatomical or structural, chemical, biochemical or infectious alterations which results in malfunction of a certain organ and the latter which is much more prevalent and has increasing incidence is characterized by the lack of a known organic substrate that could explain the understanding of symptoms.

Signs and symptoms include night sweats, fevers, and intestinal blood loss suggest an organic illness. Weight loss is often associated with an organic illness [29]. Antispasmodics [30] are very important in the treatment, as abdominal pain and/or discomfort is part of the. Among them are usually prescribed mebeverine (200 mg b.i.d.), pinaverium bromide (100 mg b.i.d.), otilonium bromide (up to 40mg t.i.d.), Menthapiperita (200 mg - 1-2 cpt.i.d.), Trimebutine and Prucalopride.

CONCLUSION

Gastro-intestinal disorders have been emerging from the past decades and the various epidemiological studies show that the disease prevalence is being increasing over the time with an increase in population. Several factors like changes in the food habits, environmental factors etc., which are the causal agents for the diseases must be preventively organized. The overall risk of the diseases can be minimized by selectively choosing the therapies and by proper management of the diseased symptoms.

REFERENCES

1. Byrne C, Smith RA, Abdelrazeq A, Pranesh N, Taylor B, et al. (2015) Predicting Risk of Anastomotic Leak in Patients Undergoing Neoadjuvant Radiotherapy and Low Anterior Resection for Rectal Cancer. J Gastrointest Dig Syst 5: 255.
2. Sammut J, Wakeman JA, Stuart N, McFarlane RJ (2013) Cancer/ Testis Antigens and Colorectal Cancer. J Genet Syndr Gene Ther 4: 149.
3. Hopp RN, Lima NCDS, Filho MS, Filho JLF, Jorge J (2015) Digit Ratio is Associated with Colorectal Cancer. J Gastrointest Dig Syst 5: 253.
4. Zumstein V, Bolli M, Manz M (2015) Lighting on PET Scan-Not Always Cancer. J Gastrointest Dig Syst 5: 250.
5. Gandhi J, Welsh F, Keating JP (2014) Assessment of the Importance of Non-Stage Related Factors in the Prognosis of Resected Colorectal Cancer. J Gastrointest Dig Syst 4: 244.
6. Cherenfant J, Ruggiero FM, Gage M, Poritz L (2014) Primary Rectal Cancer from Outside the Rectum. J Gastrointest Dig Syst 4: 237.
7. Huynh D, Nguyen NQ (2015) Gastrointestinal Dysfunction in Chronic Liver Disease. J Gastrointest Dig Syst 5: 257.
8. Huang CS, Terng HJ, Chang CW, Chou YC, Chang YT, et al. (2014) A Gene Expression Profile of Peripheral Blood in Colorectal Cancer. J Microb Biochem Technol 6: 102-109.

e-ISSN: 2319-9865
p-ISSN: 2322-0104

9. http://en.wikipedia.org/wiki/Colorectal_cancer
10. Neil Hyman, MD, Thomas L. Manchester, MD, Turner Osler, MD, Betsy Burns, NP, and Peter A. Cataldo. (2007) Anastomotic Leaks After Intestinal Anastomosis. Ann Surg. 2007 Feb; 245: 254–258.
11. Hannah Caulfield, MD; Neil H. Hyman, MD (2013) Anastomotic Leak After Low Anterior Resection A Spectrum of Clinical Entities. AMA Surg 148: 177-182.
12. Hayden DM, Mora Pinzon MC, Francescatti AB, Saclarides TJ (2014) Patient factors may predict anastomotic complications after rectal cancer surgery: Anastomotic complications in rectal cancer. Ann Med Surg (Lond) 4: 11-16.
13. Militsa NN, Postolenko ND, Militsa KN, Angelovskiĭ IN, Soldusova VV (2014) Approaches for formation of the large bowel anastomoses for prophylaxis of their sutures insufficiency. Klin Khir 11: 25-28.
14. Polanecky O, Adamek S, Sedy J, Skorepa J, Hladik P (2014) Postoperative rectal anastomotic complications. Bratisl Lek Listy 115: 781-785.
15. Rubin F, Douard R, Wind P (2014) The functional outcomes of coloanal and low colorectal anastomoses with reservoirs after low rectal cancer resections. Am Surg 80:1222- 1229.