Original Article

Upper GI Endoscopy and Colonoscopy

Significance and Outcome of Performing Upper GI Endoscopy and Colonoscopy for Paediatric GI Referrals

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ABSTRACT

Objective: To diagnose treatable gastrointestinal diseases with help of upper GI endoscopy and colonoscopy.
Study Design: Observational / descriptive study.
Place and Duration of Study: This study was conducted at the Paediatric Gastroenterology, Hepatology & Nutrition, King Faisal Hospital & Research Centre, Jeddah, Kingdom of Saudi Arabia from March, 2016-September, 2016.
Materials and Methods: Twenty children were recruited in this study with history of GI symptoms of chronic diarrhoea with and without blood, vomiting and abdominal pain. The referrals were made from small cities of Kingdom of Saudi Arabia to our tertiary centre.
Results: Out of 20 referrals we were able to confirm 2 cases (10%) of coeliac disease, 5 cases (25%) of crohn's disease, 3 cases (15%) of helicobacter pylori gastritis, 1 case (5%) of graft versus host disease (GVHD), 1 case (5%) of acute gastritis, 1 case (5%) of intestinal lymphangiectasia (IL), 4 cases (20%) of gastro-oesophageal reflux disease (GORD) and in 3 patients (15%) no pathology was found.
Conclusion: We understand that clinicians at local level spent too much time before making these referrals. But by investigating them promptly especially with upper GI endoscopy and colonoscopy majority of them got diagnosed and managed appropriately.
Key Words: Upper GI endoscopy, Colonoscopy, GI diseases

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INTRODUCTION

Diagnosis and treatment of certain GI diseases in children with help of upper GI endoscopy and colonoscopy is of paramount importance to provide good care.[1] Gastrointestinal endoscopy is now recognised a major diagnostic tool in children. The diagnostic and therapeutic paediatric endoscopic procedures now provide standard care. [2]

In special circumstances it is extremely difficult to reach the final diagnosis without performing highly skilled procedures like upper GI endoscopy and colonoscopy. This is difficult in remote areas of the developing countries due to lack of resources, skills and awareness among the local health professionals.

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This study was conducted to determine the accurate diagnosis and then to institute the appropriate treatment for GI referrals from small cities to our tertiary centre.
Twenty patients were referred to our tertiary centre who were managed at local level for years without any significant improvement. After our initial evaluation with complete clinical history and examination, appropriate laboratory investigations were requested. Subsequently we were able to confirm various GI diseases with help of upper GI endoscopy and colonoscopy.

MATERIALS AND METHODS

This observational / descriptive study was carried out for the period starting from March, 2016- September, 2016 for twenty children who were referred to our tertiary centre from small cities in Kingdom of Saudi Arabia. The data was collected from the ICIS used in hospital power chart system. The data was presented in form of a pie chart and a table.

RESULTS

The data out of twenty referrals five have had history of bloody diarrhoea associated with abdominal pain were diagnosed with Crohn's disease by performing both upper GI endoscopy and colonoscopy. A couple of

patients with history of chronic diarrhoea were diagnosed with coeliac disease by positive coeliac screen and upper GI endoscopy. Out of eleven children with history of intermittent vomiting and recurrent abdominal pain three were diagnosed with helicobacter pylori gastritis, four had gastro-oesophageal reflux disease(GORD) and one patient had acute gastritis. We were unable to make any diagnosis in three patients. This group of three patients is undergoing further investigations to delineate the cause of their symptoms. One patient with history of post cardiac surgery for complex congenital heart disease presented to us with chronic diarrhoea was subsequently diagnosed with intestinal lymphangiectasia (IL). One child was referred with history of post bone marrow transplantation due to Fanconi anaemia and chronic persistent diarrhoea turned out to be a case of graft versus host disease (GVHD). The demographic data (age, sex, symptoms, past medical history and diagnosis) of patients are mentioned in table 1. The figure 1 explains the spectrum of gastrointestinal diseases confirmed by upper GI endoscopy and colonoscopy.

Table No.1: Demographic data of 17 patients with confirmed GI diseases

	Age	Sex	GI Symptoms	Past medical history	Diagnosis
1	8 years	F	Vomiting	Nil	GORD
2	7 years	F	Vomiting	Epilepsy	GORD
3	7 years	M	Vomiting	ADHD	GORD
4	4 years	F	Vomiting	Nil	GORD
5	2 years	M	Chronic diarrhoea	Anaemia	Coeliac disease
6	6 years	M	Chronic diarrhoea	Autism	Coeliac disease
7	9 years	M	Abdominal pain, vomiting	Developmental delay	H. Pylori gastritis
8	7 years	M	Abdominal pain, vomiting	Autism	H. Pylori gastritis
9	9 years	F	Abdominal pain, vomiting	Nil	H. Pylori gastritis
10	10 years	M	Abdominal pain, vomiting	Rhabdomyosarcoma	Acute gastritis
11	9 years	F	Chronic diarrhoea	Post cardiac surgery	IL
12	6 years	M	Chronic diarrhoea	Post BMT, Fanconi anaemia	GVHD
13	9 years	F	Bloody diarrhoea, abdominal pain	Nil	Crohn's disease
14	11 years	M	Bloody diarrhoea, abdominal pain	Nil	Crohn's disease
15	6 years	F	Bloody diarrhoea, abdominal pain	Nil	Crohn's disease
16	8 years	F	Bloody diarrhoea, abdominal pain	Nil	Crohn's disease
17	11 years	M	Bloody diarrhoea, abdominal pain	Nil	Crohn's disease

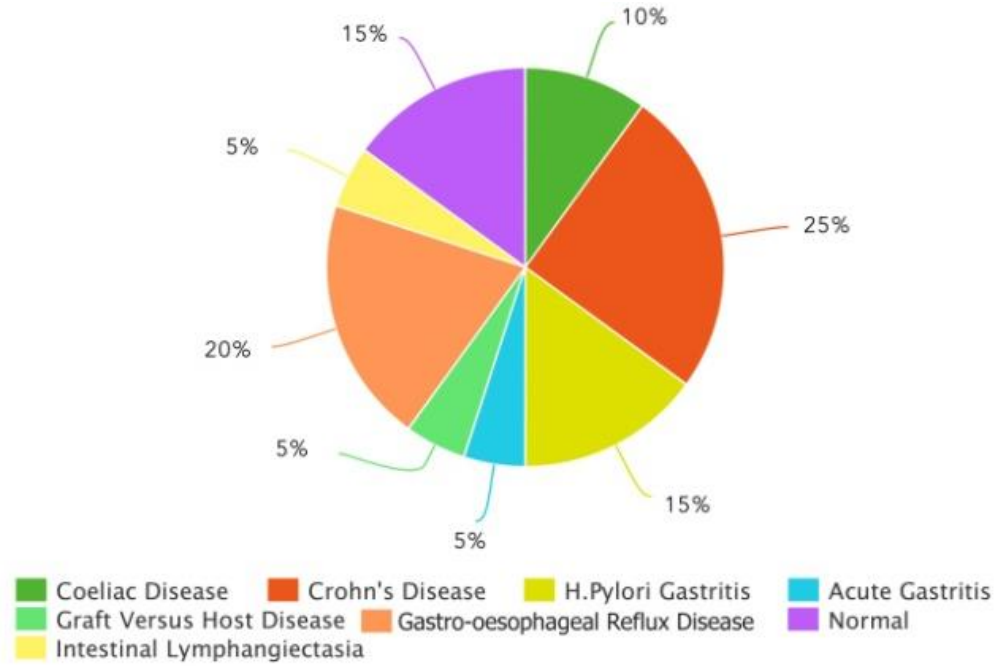

Figure No.1: Spectrum of GI disease confirmed by upper GI endoscopy & colonoscopy

DISCUSSION

Gastro-oesophageal reflux disease also known as acid reflux, is a long term condition where stomach contents come back up into the oesophagus resulting in either symptoms or complications[3]. Symptoms include the taste of acid in the back of the mouth, heartburn, bad breath, chest pain, vomiting, breathing problems, and dental decay. Complications include oesophagitis, oesophageal strictures, and Barrett's oesophagus. Our patients responded well to omeprazole.

Coeliac disease is the most common genetically related food intoleranceworldwide.[4,5,6] Coeliac disease is a multifactorial, autoimmune disorder that occurs in genetically susceptible individuals. It is triggered by a well-identified environmental factor (gluten and related prolamins present in wheat, rye, and barley). The disease primarily affects the small intestine, where it progressively leads to flattening of the small intestinal mucosa. As expected our patients with coeliac disease became asymptomatic with help of gluten free diet.

Inflammatory bowel disease (IBD) is an idiopathic disease caused by a dysregulated immune response to host intestinal microflora.[7,8] The two major types of inflammatory bowel disease are ulcerative colitis (UC), which is limited to the colon, and Crohn disease (CD), which can affect any segment of the gastrointestinal tract from the mouth to the anus, involves "skip lesions," and is transmural. In our data patients of Crohn's disease have moderate to severe disease who were treated with steroids in the induction phase as elemental/polymeric diet is not readily available in Saudi Arabia. All patients are in remission and take azathioprine as maintenance therapy.

Helicobacter pylori is a gram-negative bacillus responsible for one of the most common infections found in humans worldwide.[9,10,11] Warren and Marshall first cultured and identified the organism as Campylobacter pylori in 1982. By 1989, it was renamed and recognized to be associated closely with antral gastritis (gastric and duodenal ulcers in adults and children). Our patients responded well to two weeks course of triple eradication medications (omeprazole, clarithromycin and amoxicillin).

The graft versus host disease has been treated by our oncology colleagues.[12,13] The patient with intestinal lymphangiectasia has been doing reasonably well while being on fat free diet with medium chain triglycerides.[14,15] This study clearly showed that children with persistent GI symptoms need early endoscopic evaluation for diagnosis and management.[16,17,18,19,20]

CONCLUSION

The GI diseases in children like gastro-oesophageal reflux disease, coeliac disease, Helicobacter pylori gastritis and inflammatory bowel disease etc. should be diagnosed and managed promptly with help of endoscopy and colonoscopy. It requires an efficient and robust system in remote areas by educating parents and health professionals to speed up the process of referrals.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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