

The Prevalence of Different Gastrointestinal Diseases Detected Through Endoscopy and Colonoscopy in Patients from Industrial Work Force

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Abstract

Background: Upper gastrointestinal (GI) symptoms are the commonest complaints among the industrial workers and the diseases associated with them carries a significant risk of morbidity and mortality. As early diagnosis and appropriate management of the condition can prevent life threatening complications. Upper GI endoscopy and Colonoscopy is an effective diagnostic as well as therapeutic tool for the patients presenting with GI symptoms.

The objective of the study: is to determine the pattern of endoscopy and colonoscopy findings in patients referred to Medical Gastroenterology department, ESIC Medical College & Super speciality hospital, Hyderabad

Methodology: In this retrospective study the occurrence of various gastrointestinal diseases identified via Endoscopy and Colonoscopy in industrial workers. It involves analysing data from patients referred to the Medical Gastroenterology department at ESIC Medical College Hospital, Sanathnagar, Hyderabad, from August 2020 to November 2022. The goal is to describe the prevalence of these conditions within this specific population.

Results: In our retrospective analysis of 1261 patients (August 2020 to November 2022), 854 underwent Endoscopy and 407 had Colonoscopy. Among the 290 who had endoscopy, Gastritis was most prevalent (290 patients), followed by Oesophageal Varices (108 patients); 121 showed normal results. Of those who had colonoscopy, 148 displayed normal findings, 94 were diagnosed with Haemorrhoids, and 27 were suspected of having carcinoma. Gastritis emerged as the most common finding in Endoscopy, while Haemorrhoids were predominant in Colonoscopy.

Conclusion:

This study identified Gastritis as the most common endoscopic finding and Haemorrhoids as the predominant colonoscopy diagnosis. This could aid in shaping policies concerning upper and lower gastrointestinal profiling among the industrial workforce.

Keywords: UGI Endoscopy, Colonoscopy, Gastritis, Esophageal Varices, Carcinoma

Introduction:

Work is a significant daily activity that affects in multiple ways life and health of working populations. It has been previously documented that specific exposures in the occupational setting, such as rotating schedules, occupational stress, change of dietary habits, sedentary job conditions, extreme temperature conditions, exposure to dust and noise may be related, among others, to the occurrence of gastrointestinal diseases; however, literature investigating the relationship between occupational exposure and the occurrence of gastrointestinal diseases is scarce. As previously reported, certain gastrointestinal disorders, namely ulcer, and gastritis, are frequent among shift workers, while there are only a few recent studies investigating the relationship with other types of gastrointestinal disease such as inflammatory bowel disease. Likewise, occupational stress seems to be associated strongly with the occurrence of ulcer and gastritis. It has been shown that workers being several hours away from home are more prone to adopt a diet based on take-out food (containing higher amounts of meat, fat, salt, spices, additives, etc.) which has been associated with all types of gastrointestinal disorders(1).

Upper gastrointestinal (UGI) endoscopy is a valuable tool in the diagnosis and management of diseases affecting the oesophagus, stomach and upper parts of the duodenum (2). In addition to direct inspection, endoscopies can be used for taking biopsies from suspicious lesions and doing certain therapeutic interventions such as sclerotherapy, banding, stricture stretching, gastrostomy and polypectomy. Major diseases diagnosed with UGI endoscopy include gastro oesophageal reflux disease (GERD), oesophageal varices and peptic ulcer (gastric and duodenal) PUD and upper GI malignancies. Endoscopy plays an essential role in the management of varices as it identifies patients in initial stage and helps to prevent variceal haemorrhage and helps to initiate specific therapies. UGI endoscopies are required to confirm the diagnosis and to prevent bleeding with direct measures like sclerotherapy and banding. (3)

The need for emergency endoscopy is a matter of debate. The time interval for emergency procedures remains to be defined. Four main indications are established for emergency endoscopy: acute gastrointestinal bleeding (variceal and non-variceal), acute biliary pancreatitis and acute cholangitis. In the case of upper gastrointestinal bleeding, emergency endoscopy enables exact diagnosis and appropriate therapy, and provides important prognostic information. There is some evidence that emergent endoscopic injection therapy improves clinical outcome and reduces mortality in patients with acute ulcer bleeding. Patients do not benefit if endoscopy is performed only as a diagnostic procedure. (4)

Colonoscopy is the gold-standard examination of lower gastrointestinal symptoms such as abdominal pain, polyps, diarrhoea, difficulty defecation, hematochezia, or mucoid stool. Colonoscopy is performed through a long flexible tube called a colonoscopy with a fibre-optic camera at its tip and enters the body through the rectum. It is helpful for the detection and/or removal of precancerous and cancerous colonic or rectal lesions. Colonoscopy is essential for the final diagnosis of inflammatory bowel disease (IBD), colonic adenomas, colonic polyps, and colorectal cancer. Patients with inflammatory bowel disease (IBD), including Crohn disease (CD) and ulcerative colitis (UC), are at increased risk of developing colorectal cancer. This cumulative risk is estimated to be about 5% after disease duration of >20 years. Colonoscopy surveillance is utilized for detection and management of colorectal dysplasia and early colorectal cancer. (5)

The patients who are contraindicated for upper GI endoscopy and colonoscopy according to the last guidelines;

Absolute Contraindications - Shock, Acute myocardial infarction, Peritonitis, Acute perforation, Fulminant colitis.

Relative Contraindications - Severe neutropenia, Coagulopathy, Severe thrombocytopenia or impaired platelet function, Increased risk of perforation including connective tissue disorders, recent bowel surgery or bowel obstruction and Aneurysm of the abdominal and iliac aorta.(6)

Furthermore, the limited number of published studies on the Prevalence of different gastrointestinal diseases detected through Endoscopy and Colonoscopy in patients from industrial work force was the challenge that this study aimed to answer. More specifically, this study assess the endoscopic and colonoscopy role in gastrointestinal tract lesions among patient referred to Medical Gastroenterology department, ESIC Medical College & Super speciality hospital, Hyderabad.

ESIC Medical College & Super speciality hospital, Hyderabad, is a run by central government of India. Employees working in different industries with a salary of less than ₹21,000 (US\$260) or less per month as wages get medical benefits for themselves and their dependents.

Patients and Methods:

This Study included total of 1261 patients, Out of which 854 patients with upper gastrointestinal symptoms had undergone UGI Endoscopy & 407 patients had undergone Colonoscopy from August 2020 to November 2022 at Medical Gastroenterology department of ESIC Medical College and Hospital.

Inclusion Criteria:

All patients whom indicated and underwent UGI Endoscopy and Colonoscopy of no specific gender, including all age groups and fulfilling the following criteria

Diagnostic indications for UGI Endoscopy: Persistent upper abdominal pain or pain associated with alarming symptoms such as weight loss or anorexia. Dysphagia, odynophagia or feeding problems. Intractable or chronic symptoms of GERD. Persistent vomiting of unknown etiology or hematemesis. Iron deficiency anaemia with presumed chronic blood loss when clinically an upper gastrointestinal (GI) source is suspected. Chronic diarrhoea or malabsorption. Assessment of acute injury after caustic ingestion. Surveillance for malignancy in patients with premalignant conditions such as polyposis syndromes, previous caustic ingestion, or Barrett oesophagus.

Therapeutic indications for UGI Endoscopy:

Foreign body removal, Dilation or stenting of strictures, Oesophageal varietal ligation, Upper GI bleeding control, Placement of feeding tubes, Management of achalasia (botulinum toxin or balloon dilation).(3)

Indications for Colonoscopy:

Elective colonoscopy is performed for reasons such as known or occult gastrointestinal bleeding or stool positive for occult blood, unexplained changes in bowel habits, patterns, iron deficiency anaemia or weight loss in elderly patients, persistent abdominal pain, suspected inflammatory or infectious colitis and barium enema showing radiographic structural abnormalities.

Therapeutic indications for colonoscopy include, but are not limited to, excision and ablation of lesions, treatment of bleeding lesions, dilation of stenosis or strictures, foreign body removal, decompression of colonic volvulus or megacolon and palliative management of known neoplasms.(7)

Methodology:

This is a retrospective observational study to describe the the Prevalence of different gastrointestinal diseases detected through Endoscopy (model NO: EG-530WR) and Colonoscopy (model NO: EC-530WL3) in patients from industrial work force. Data of all the patients referred and admitted under the Medical Gastroenterology department at ESIC Medical College Hospital, Sanathnagar, and Hyderabad during August 2020 to November 2022 were used. The demographic details including age, gender, occupation, complaints, and diagnosis were recorded. All the patients with complete aforementioned demographic details were included and the data of those with incomplete details was excluded.

Institutional ethics committee was obtained and informed consent was waived as the study was retrospective.

Results: Our thesis demonstrates that the majority of the patient who underwent UGIE were diagnosed with Gastritis and the patient who underwent Colonoscopy had normal study.

Table 1: Description of demographic characters among study group

Variables		Number of patients (n=1261)		ENDOSCOPY		COLONOSCOPY	
Age groups		Variables	Number (n=854)	Variables	Number (n=407)		
Less than 20 years	82	Age groups		Age groups			
21-40 years	367	Less than 20 years	58	Less than 20 years	24		
41-60 years	571	21-40 years	236	21-40 years	131		
61-85 years	241	41-60 years	384	41-60 years	187		
Gender		61-85years	176	61-85 years	65		
Male	671	Gender		Gender			
Female	590	Male	451	Male	220		
		Female	403	Female	187		

Table 2: Diagnosis of Endoscopy and Colonoscopy

Endoscopy Findings		Colonoscopy Findings	
Diagnosis	Total	Diagnosis	Total
Gastritis	290	Normal study	148
Normal study	121	Hemorrhoids	94
Esophageal Varices	108	Carcinomas	27
Hiatus hernia	98	Inflammatory Bowel Disease	20
Carcinoma Esophagus	76	Rectal polyp	20
Peptic Ulcer disease	54	Rectal ulcers	19
Post cricoid stricture	44	Fissure in ano	17
Esophageal Candidiasis	27	SRUS	11
Gastric outlet obstruction	26		
Stent Removal	23		
Corrosive injury	19		

Discussion:

Esophagogastroduodenoscopy (UGIE) has become a key element in the diagnosis and treatment of oesophageal, gastric, and small-bowel disorders. The many accepted indications for EGD include evaluation of dysphagia, GI bleeding, peptic ulcer disease, medically refractory GERD, oesophageal strictures, celiac disease, and unexplained diarrhoea. During EGD evaluation, diagnostic biopsies can be performed as well as therapies to achieve haemostasis and dilatation for significant strictures (7).

Colonoscopy has been used as a key diagnostic and therapeutic tool for various intestinal diseases. There are many types of intestinal diseases, and they can be classified into infectious disease, inflammatory bowel disease (IBD), neoplasm, functional bowel disorder, bleeding, and others. Colonoscopy can visualize lesions associated with these diseases and find inflammation, ulcers, neoplasms, and haemorrhages. In addition, it provides information on macroscopic findings and enables tissue sampling by inserting instruments through various channels

The retrospective observational study encompassed 1261 patients who underwent endoscopic procedures at the Medical Gastroenterology department of ESIC Medical College and Hospital between August 2020 and November 2022. The primary focus was to understand the prevalence of gastrointestinal diseases within the industrial workforce referred for diagnostic or therapeutic purposes.

Among the 854 patients who underwent Endoscopy, Gastritis emerged as the predominant diagnosis, affecting 290 individuals. Following this, 121 patients exhibited normal endoscopic findings, while Oesophageal Varices were diagnosed in 108 patients. These findings delineate the spectrum of gastrointestinal conditions prevalent among this cohort seeking endoscopic evaluation.

Conversely, among the 407 patients who underwent Colonoscopy, 148 displayed normal results, indicating no detectable abnormalities. Haemorrhoids were diagnosed in 94 patients, representing a notable finding, while 27 patients were suspected to have rectal carcinoma, highlighting a less frequent yet significant concern detected via Colonoscopy. These outcomes underline the diverse range of gastrointestinal disorders encountered in this industrial workforce population and emphasize the diagnostic significance of both Endoscopy and Colonoscopy in managing such conditions.

Conclusion:

The most common indication for undergoing UGIE at ESIC Medical College & Super speciality hospital, Hyderabad was epigastric pain and heart burn in the absence of any other symptom. While the most common gastrointestinal pathologies of patient symptomatology necessitating endoscopic evaluation were PUD. Also, oesophageal varices were common oesophageal findings especially large ones for which band ligation was done, decreasing mortality rate for those patients. Diagnostic and therapeutic role of UGI Endoscopy make it a great tool for management different Upper GI tract pathologies. The most common indication for undergoing Colonoscopy was bleeding PR and Loose stool. However, the study was found to be Normal in most of the patients.

This study underscores the importance of both procedures in diagnosing and understanding gastrointestinal ailments. This could aid in shaping policies concerning upper and lower gastrointestinal profiling among the industrial workforce.

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