



DIAGNOSTIC ROLE OF ENDOSCOPY IN UPPER GASTROINTESTINAL DISEASES

General Surgery

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ABSTRACT

Introduction: Endoscopy of Endoscopy of gastrointestinal diseases is an effective tool for the diagnostic evaluation and management of patients with dysphagia. Thus, the present study was undertaken to study the role upper gastrointestinal endoscopy in early diagnosis and management of common gastric disorders.

Material and Methods: The present prospective study comprised of 100 patients who underwent endoscopy procedure due to history related to gastric disorders in the SMIMER Medical College, Surat.. After history taking and physical examination, patients were subjected to fibre-optic upper GI scopy. Obtained data was arranged according to characteristics and was expressed as a number and percentage of respondents and were analyzed using the SPSS Version 17 software.

Results: In the present study, duration of symptoms of gastric discomfort and pain with 36 patients reported symptoms from <1 month, 92 from 1-6 months, 40 from months to 1 year and 32 patients reported symptoms from a duration of 1-2 years. On endoscopic examination, 44 patients were diagnosed with reflux esophagitis, 12 hiatus hernia, 72 gastritis, 12 gastric ulcer, 20 carcinoma stomach and 8 duodenal ulcer.

Conclusion: Upper GI endoscopy is an effective and appropriate approach for initial investigation to assess patients with dysphagia. It enhances the early diagnosis and thus helps in early initiation of the required treatment for acute abdomen including pharmacological and surgical treatment.

KEYWORDS

Gastric Carcinoma; Gastritis; GERD; Oesophgogastrroduodenoscopy

INTRODUCTION

Upper gastrointestinal (GI) endoscopy is a procedure that uses an endoscope—a small, flexible camera with a light—to examine the upper GI tract. The health care provider carefully inserts the endoscope down into the esophagus and into the stomach and duodenum. The small camera built into the endoscope transmits a video image to a monitor, allowing close examination of the GI lining.¹ Endoscopy of gastrointestinal diseases is an effective tool for the diagnostic evaluation and management of patients with dysphagia. A cost analysis also showed that endoscopy with therapeutic intent is more cost effective than an initial diagnostic approach with barium swallow in patients with histories suggestive of benign esophageal obstruction.² Thus, the present study was undertaken to study the role upper gastrointestinal endoscopy in early diagnosis and management of common gastric disorders.

MATERIAL AND METHODS

The present prospective study comprised of 200 patients who underwent endoscopy procedure due to history related to gastric disorders in the SMIMER Medical College, Surat. Ethical approval was obtained and informed consent from patients were obtained. After history taking and physical examination, patients were subjected to fibre-optic upper GI scopy.

Procedure after clinical examination: Patients were kept fasting from previous night 10 pm. Injection Atropine lamp was given 1/2 hr before the procedure. Patients were given 4% Xylocaine viscus in their mouth to retain it for 10-15 minutes for local anaesthesia. Endoscopy was carried out by fibre optic flexible oesophgogastrroduodenoscopy (model Olympus GIF XQ20) by placing patient in left lateral position. A mouth guard was used to protect the instrument. With slight, head down tilt and slight flexion at the neck, the lubricated instrument was passed over the back of the tongue and under direct vision into the esophagus. Resistance usually at crico-pharyngeal muscle could be overcome with gentle pressure and active swallowing movement by the patient. This is most dangerous part of the endoscopy and the common site for perforation. Subsequently the endoscope was advanced with clear view of lumen, keeping two main principle of endoscopes i.e. do not advance without vision, if in doubt withdraw it.

Esophageal mucosa was fully examined and the level of diaphragm was observed as a slight indication. The esophagogastric junction was identified as a change from slight opaque gray squamous esophageal mucosa to the real glistening gastric fold. Air was insufflated in to the stomach when endoscopes was at the level of esophagogastric junction. The lip was maneuvered slightly downwards and to the left initially to obtain a view of the stomach. The endoscope was moved upwards and to the right as the scope advanced through the body of the stomach. At the angulus, the tip of the endoscope was flexed more firmly upwards until the pyloric ring comes into view. The stomach usually examined completely on withdrawal of instrument. Attention was paid to the area just below the angulus on lesser curvature, which is common site for ulceration. Fundus of the stomach examined by retroversion U-Manoeuvre of the endoscope. Duodenal bulb was intubated by advancing the tip of the instrument under direct vision as closely as possible to the pyloric ring and then applying gentle pressure. The superior duodenal fold was identified and this as a constant landmark, the duodenal bulb was examined by a combination of distal tip manipulation and instrument rotation. During the whole procedure of endoscopic examination of esophagus stomach and duodenum, abnormal area either swelling, ulcer, growth, fibrosis, bile reflux, varices, gastro- esophageal reflux, duodeno-gastric reflux were properly evaluated and if doubt exists, biopsy was taken of pathological areas. All areas visualized and studied were recorded in form of drawing or written or by photography for comparison in future. Before withdrawal of instrument from stomach, air and gastric contents were aspirated. After completion of endoscopic examination, instrument was cleaned.

STATISTICAL ANALYSIS

Obtained data was arranged according to characteristics and was expressed as a number and percentage of respondents and were analyzed using the SPSS Version 17 software.

RESULTS

In the present study clinical diagnosis was carried out after history and Clinical examination and patients were subjected to endoscopic examination. Table-1 shows duration of symptoms of gastric discomfort and pain with 36 patients reported symptoms

from <1 month, 92 from 1-6 months, 40 from months to 1 year and 32 patients reported symptoms from a duration of 1-2 years.

On physical examination, 136 patients showed tenderness, 24 scar, 20 hepatosplenomegaly, 12 abdominal lump and 4 splenomegaly (table-2). On endoscopic examination, 44 patients were diagnosed with reflux esophagitis, 12 hiatus hernia, 72 gastritis, 12 gastric ulcer, 20 carcinoma stomach and 8 duodenal ulcer. In 32 patients, no abnormality in gastrointestinal tract was detected on endoscopic examination (table-3).

DISCUSSION

The clinical indications for endoscopy of the upper gastrointestinal tract include symptoms typical of GERD but that are refractory to treatment, alarm signs (dysphagia, bleeding, weight loss, anemia), or symptoms in patients older than 50 years. There is no absolute contraindication for upper gastro intestinal endoscopy. Major complications such as perforation or aspiration are rare, occurring in less than 1 per 1000 cases.³

The present study found that maximum patients with gastrointestinal pain and discomfort were diagnosed with gastritis followed by reflux esophagitis, carcinoma stomach, hiatus hernia, gastric ulcer and duodenal ulcer. Common reasons attributing to gastritis are *Helicobacter pylori* (*H. pylori*) infection, damage to the stomach lining, which leads to reactive gastritis and an autoimmune response. The factors attributing to reactive gastritis are drinking alcohol, using cocaine, exposure to radiation or having radiation treatments, reflux of bile from the small intestine into the stomach and a reaction to stress. This type of reactive gastritis is considered as stress gastritis.¹ Reflux esophagitis or gastroesophageal reflux disease (GERD) is a major digestive health problem and is defined as a condition that involves gastric content reflux with ensuing symptoms or complications. It is one of the most frequent causes of

No.	Duration	No.	Percege
1	<1 Month	36	18
2	1-6 Months	92	46
3	6 Months-1 year	40	20
4	1-2 years	32	16

Table-1: Duration of Symptoms

No.	Findings	No.	Percentage
1	Tenderness	136	68
2	Scar	24	12
3	Abdominal Lump	12	6
4	Hepatomegaly	20	10
5	Splenomegaly	4	2

Table-2: Patients with Positive Findings on Abdominal Examination

No.	Disease	No. of Lesions
1	Reflux Esophagitis	44
2	Hiatus Hernia	12
3	Gastritis	72
4	Gastric Ulcer	12
5	Carcinoma Stomach	20
6	Duodenal Ulcer	8
7	Normal	32
	Total	200

Table-3: Endoscopic Results in patients gastric discomfort and pain

gastroenterological consultations in out-patients and compromises the quality of life of the patients significantly.⁴ Gastric cancer is the second leading cause of death from malignant disease worldwide, with especially high mortality rates in East, South, and Central Asia; Central and Eastern Europe; and South America.⁵ Stomach cancer refers to any malignant neoplasm that arises from the region extending between the gastroesophageal junction and the pylorus. Approximately 95 percent of stomach tumours are epithelial in origin and designated as adenocarcinomas. Adenosquamous, squamous, and undifferentiated carcinomas are however rare. Even though the multiple factors play role in etiology of gastric cancer, more than 80% of cases have been associated with *H. pylori* infection. Moreover, diet, lifestyle, genetic, socioeconomic and other factors also attributes to gastric carcinogenesis.⁶ Qureshi NA et al⁷ conducted a study to evaluate the diagnostic potential of endoscopy in 913 patients with dysphagia and found abnormal oesophagus in 678 cases (74%) and biopsies were taken in 428 patients (47%) with superficial esophagitis, Barrett's

oesophagus, oesophageal cancer and oesophageal ulcer were main histological findings. The occurrence of hiatus hernia increases with age and body mass index. Herniation of the contents of the abdominal cavity most commonly the stomach is referred as Hiatus hernia, through the esophageal hiatus of the diaphragm into the mediastinum. Gastroesophageal reflux disease is the main clinical manifestation of hiatus hernia. Endoscopy, high resolution manometry or radiology with barium swallow can help in diagnosis of hiatus hernia.³ Brewer BJ⁸ conducted a study and revealed factors that help in identification of the high risk patient with an acute surgical abdomen includes pain for less than 48 hours, pain followed by vomiting, guarding and rebound tenderness on physical examination, advanced age and a prior surgical procedure. The presence of these features demands careful evaluation by the physician for early diagnosis of the disease. Good proficiency in early diagnosis requires proper history taking, physical examination of the abdomen and knowledge of basic anatomy and physiology of gastrointestinal tract and. Therapeutic endoscopy, interventional radiology treatment and therapy using adult laparoscopy are the common modalities for treating patients with acute abdomen.^{9,10}

CONCLUSION

Upper GI endoscopy is an effective and appropriate approach for initial investigation to assess patients with dysphagia. It enhances the early diagnosis and thus helps in early initiation of the required treatment for acute abdomen including pharmacological and surgical treatment.

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