

ORIGINAL ARTICLE

ANALYSIS OF ENDOSCOPIC FINDINGS AMONG GASTROINTESTINAL PATIENTS IN GONDAR UNIVERSITY HOSPITAL

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ABSTRACT

Background: All upper gastrointestinal diseases are presumably prevalent in North Ethiopia. However, the exact nature and prevalence of these problems are not clearly identified. Until recently, patient assessment and treatment relied basically on assumptions and experience acquired from other parts of Ethiopia.

Objective: To assess the distribution and prevalence of upper gastro-intestinal problems in the areas served by the Gondar University teaching hospital.

Methods: A one year prospective study of 500 consecutive patients who fulfilled the inclusion criteria for upper gastrointestinal examination. The procedure was conducted by trained personnel using an Olympus model GIF-E 600 fiber-optic endoscope.

Results: The most prevalent finding is a non-ulcer dyspepsia (NUD) which accounted for 37.8% followed by active duodenal ulcer and pyloric stenosis or deformity with a feature of gastric outlet obstruction in 21.8% and 15.6% of the cases, respectively. Esophageal varices accounted for 8.2%. There is no significant difference between male and female ulcer prevalence. Esophageal carcinoma was detected in 3.0% and 1.84% of the patients had gastric cancer. The majority of the patients are below 35 years of age. The most common presenting symptom was found to be dyspepsia (48.8%). Only 15% presented a history of upper GI bleeding. Surgical treatment was indicated in 11% and *Helicobacter pylori* eradication therapy provided to 27.2% of the study cases.

Conclusions: This study has shown the pattern of upper GI pathologies prevalent in this part of the country. It is also noted that younger age groups are affected with both esophageal and gastric carcinoma in the study area. However, this is a hospital based study which may not reflect the actual prevalence in the community.

INTRODUCTION

Esophago-gastro-duodenoscopy using flexible optical instruments has become an indispensable diagnostic tool. Most patients presenting with dyspepsia, epigastric discomfort or pain, and bleeding need evaluation using this technique (1). Though newer noninvasive methods have been developed for screening *Helicobacter pylori* (HP) infection, the significance of esophago-gastro-duodenoscopy is still relevant in distinguishing an active ulcer from other causes of non-ulcer dyspepsia or any suspicious malignant lesions (2).

In developing countries like Ethiopia, where patients present late with chronic diseases and their complications, the treatment options and follow up of treatments of these cases in general depend on the findings of upper GI endoscopy. It is evident that with clinical symptoms alone, it is impossible to rightly diagnose the pathologies (3). The correlation

between the presence of HP infection and non-ulcer dyspepsia or normal looking mucosa has not yet been established (2,3,5).

Irrespective of the age of the patients and the severity of the symptoms, upper GI endoscopy is strongly recommended to define the ongoing pathology. It is specially recommended in the older age group where the possibility of malignancy is high. Therefore, the presence of upper GI endoscopy service in a teaching hospital is a basic requirement for evaluating patients with esophago-gastro-duodenal problems. Hence, the study aims to emphasize the importance of the establishment of the unit and assess the indications and pattern of findings of upper GI endoscopy. The authors believe the findings of this study will put baseline background information for the unit in any endeavor for future study.

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METHODS

This is a prospective study designed to include consecutive patients who fulfill the indication for upper GI endoscopy. Symptoms of epigastric pain, dyspepsia, heart burn, dysphagia and signs of bloody vomiting, gastric outlet obstruction, portal hypertension or upper GI malignancy were considered indications strong enough for endoscopic examination. The patients were referred from outpatient and inpatient services of the hospital. The study was conducted for 12 months between July 2002 up and June 2003.

Trained surgeons and internists using a flexible Olympus fibre-optic endoscope model GIF-E 600 performed the procedure after an informed and signed consent. The upper GI endoscopic examination was performed using local anesthetic lidocaine or xylocaine sprays on oro-pharyngeal region in all cases. In the findings of a mass lesion or suspicious ulcers, specimen was taken for histo-pathologic study. The socio-demographic, clinical data and upper GI endoscopic findings were all documented by the endoscopist in a prepared form. The data were analyzed in Epi Info 2000 statistical software.

RESULTS

Analysis of the findings of 500 upper GI endoscopy shows that nearly half of the patients (49%) are below the age of 35 years while 41% lie between 35 and 55 years. Only 10% were found to be above 55 years of age. The mean age is 37.7 years (SD \pm 13.1) (Table 1). A slight male preponderance was found in sex distribution (M:F = 1.3:1). Fifty-one percent of the patients were from urban areas showing no significant difference between urban and rural dwellers referred with indications for endoscopic examination (Table 1.)

Indigestion and vague abdominal pain (dyspepsia) was found to be the most common indication for undergoing upper GI endoscopy (48.8%) followed by epigastric pain and vomiting in 28.2% and 27.6% of the cases, respectively. Upper GI bleeding, suspicion for esophageal varices and dysphagia were the other indications in decreasing frequency (Table 2).

Table 1: Table showing the socio-demographic variables

Sex	Male (285)	Female (215)	
Age	less than 35 years (245)	35-45 years (206)	Over 35 years (49)
address	Urban (255)	Rural (245)	

Table 2.: Major indications for undergoing upper GI endoscope examination

Type of indication	Frequency*	Percentage
Dyspepsia	244	48.8
Epigastric pain	141	28.2
Vomiting	138	27.6
Bleeding	75	15.0
Portal hypertension	59	11.8
Dysphagia	13	2.6

* Some of the patients had more than one sign and/or symptom as an indication for the procedure

The prevalence of esophago-gastro duodenal endoscopic findings is depicted in table 2. Non-ulcer dyspepsia (NUD), with normal looking mucosa and without any evidence of pathology, was seen in 37.8% of the patients followed by active duodenal ulcer and deformed pylorus with or without stenosis in 21.8% and 15.6%, respectively. Gastric ulcer was demonstrated in only 2.0% of all cases. Among Ulcer cases; males make up 66.6% while females accounted for only 33.3%. However, males were found to be more affected in duodenal ulcer cases alone (P=0.004). Esophageal varices, with bleeding episodes or as part of work up of portal hypertension were found in 8.2%. Among the malignancies, esophageal carcinoma was seen in fifteen cases (3.0%), five of which were aged below 50 years. Gastric carcinoma was observed in 10 cases (2.0%) with 7 of them aged below 40 years. A single case of duodenal carcinoma was also evident. Nonspecific Gastritis, either atrophic or hypertrophic, accounted for 8% of the cases.

Table 3: Prevalence of upper GI endoscopic findings

Type of Findings	Number of patients*	percent-age
Non-ulcer Dyspepsia	189	37.8
Active duodenal ulcer	109	21.8
Pre pyloric Ulcer	23	4.6
Pyloric Stenosis and deformity	78	15.6
Varices	41	8.2
Gastritis	40	8.0
Hiatus hernia + Esophagitis + gastroesophageal reflux disease	37	7.4
Esophageal Ca	15	3.0
Gastric lesion	10	2.0
Others	8	1.6

* Some of the patients had more than one finding detected during the procedure

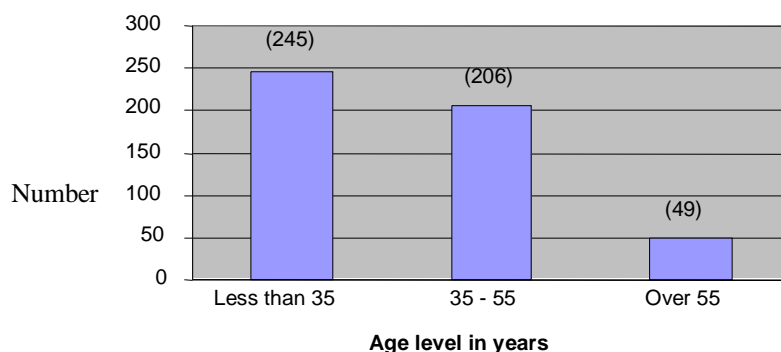


Figure 1: Age distribution of patients who underwent upper GI endoscopic examination.

27.2%, of the cases were treated with triple therapy in 11 % of cases peptic ulcer surgery was advised.

DISCUSSION

Dyspepsia, peptic ulcer disease and upper GI bleeding are very common problems in Ethiopia (1,2). Upper GI endoscopy has been the main tool of workup since its widespread use in the last three decades. In Ethiopia, where other forms of investigation modalities are limited, endoscopic diagnosis is of paramount importance. The fact that the examination is conducted using flexible optical instruments and local anesthetic spray has made it tolerable to many patients, unlike in many other countries where a combination of sedatives is used (3).

The male to female ratio in this study is 1.3:1 compared to 3:1 in a previous Ethiopian study (6). The most prevalent finding is NUD as it is in most other African countries such as Kenya and the Ivory Coast (4,5). Many studies have demonstrated that there is no correlation between NUD and *Helicobacter pylori* infection making it difficult to diagnose NUD with other less invasive techniques (7,8,10).

The high incidence of pyloric stenosis, 15.6 %, is attributed to the late presentation of patients with PUD. The other possible reason to be cited is the unavailability of the diagnostic and treatment service. Duodenal ulcer and prepyloric ulcer accounted for 26.4%. It is reported that duodenal ulcer is twice as common in males as in females. It was also common in younger age groups

than older patients. As in many reports, a significant difference was noted in the incidence of duodenal ulcer between the two sexes (P value =0.004).

Though a history of bleeding was noted in 15% of the cases, esophageal varices accounted only for 8.2% and peptic ulcer disease for the remaining 7%. Upper GI bleeding was observed in significantly lower proportion than in studies conducted in Addis Ababa (6). Mass lesions with endoscopic findings suggestive of carcinoma and histology confirmed biopsy specimens were found in both the esophagus and the stomach, in 3.0% and 2.0% respectively. This finding is inconsistent with other studies in Addis Ababa where the prevalence of gastric carcinoma is higher than esophageal carcinoma. Both gastric (7/10) and esophageal carcinoma (5/15) occurred in patients below the age of 50 years. The reason why these malignancies occurred in younger ages than indicated in the literature requires future investigation.

Triple therapy was instituted in 27.2%, of the cases while surgery was recommended in 11%. Triple therapy was also administered where there was pyloric stenosis in patients who were not willing or those whose health condition did not allow surgical intervention.

In conclusion, this study has heralds the opening of a new gastrointestinal endoscopic service in the hospital. To be sure the hospital now owns one of the fewest such facilities in the country and the only one of its kind in North West Ethiopia. It has also laid down the basis for future investigations using the set up. Moreover, the study has shown the pattern of upper GI pathologies prevalent in this part of the country. It is also noted that younger age groups are affected by both esophageal and gastric carcinoma in the study area. However, this is a hospital-based study which may not reflect the actual prevalence in the community.

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