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An Audit of more than a Thousand uppergastrointestinal Endoscopy in a Tertiary Care Teaching Hospital in South India

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Research Article

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Abstract

Background: Esophagogastroduodeno (EGD) scopy is a benchmark in the modern era of medicine. It is a sensitive tool used to evaluate the upper gastrointestinal (GI) symptoms. Application of EGDscopy is not merely restricted to diagnosis but as well used for therapeutic purpose.

Aim of the Study: To find out the common indications for EGDscopy and its findings in a large tertiary care hospital attached to Bangalore medical college and research institute (BMCRI), Bengaluru.

Materials and Methods: A retrospective study was conducted on 1030 patients either admitted or seen on outpatient basis at the Bowring and Lady Curzon hospital attached to BMCRI, Bengaluru with the upper GI symptoms like dyspepsia, dysphagia, epigastric pain abdomen, hematemesis etc from September 2016 to August 2018 and the data was analyzed using appropriate statistical methods.

Results: Out of 1030 patients who underwent EGDscopy 62% were male and 61% were 31-59year old. The major indications for EGDscopy were epigastric abdominal pain (18%), dyspepsia (18%), chronic liver disease (15%), dysphagia (11%) and hematemesis (8%). The common pathological findings in the above mentioned indications were gastritis and esophagitis in patient with both epigastric abdominal pain and dyspepsia, portal hypertensive gastropathy and esophageal varices in chronic liver disease, esophageal growth in dysphagia and esophageal varices (EV) in cases of hematemesis.

Conclusions: The following insights/observations were made during the course of our study-dysphagia is not just oropharyngeal or esophageal in origin but *H. pylori* gastritis can cause similar complaints, eradication of which relieves the symptoms in our observation. Chronic abdominal pain associated with postprandial urgency which is deemed as Inflammatory Bowel Disease-Diarrhea (IBS-D) may actually be *H. pylori* gastritis with exaggerated gastro-colic reflex

which gets relieved with anti- *H. pylori* treatment; further studies are needed to prove this claim. Mosaic like pattern with focal areas of hyperemia in the gastric body mucosa is not just typical of portal hypertensive gastropathy but also can be seen with *H. pylori* gastritis. Corrosive acid ingestion as a mode of suicidal attempt is common in this part of India which can lead to morbidity and even mortality in severe cases, legislative measures need to be put in place to check the sale and use of corrosive acid. Diffuse white spots in duodenum were mostly due to chronic nonspecific duodenitis rather than intestinal lymphangiectasia in our study.

Keywords: Esophagogastroduodenoscopy; Epigastric Abdominal Pain; Dyspepsia

Abbreviations: EGD: Esophagogastroduodeno Scopy; BMCRI: Bangalore Medical College and Research Institute; EV: Esophageal Varies; IBS-D: Inflammatory Bowel Disease-Diarrhea; GOO: Gastric Outlet Obstruction; GAVE: Gastric Antral Vascular Ectasia; GERD: Gastro Esophageal Reflux Disease; RUT: Rapid Urease Test; PPI: Proton Pump Inhibitors.

Introduction

Larry Curtiss introduced first fibreoptic gastroscopy in 1958[1]. Since then; EGDscopy has almost completely replaced barium study [2]. EGDscopy is the best modality to evaluate upper gastrointestinal (GI) mucosa. Rapid advances in technology have led to benchmark changes in diagnosis and management of digestive disorders. It is superior to any modality by direct visualization of the mucosal surfaces of the esophagus, stomach and proximal duodenum [3]. It can help to find out the cause of unexplained upper GI symptoms like persistent heartburn, upper GI bleeding, difficulty in swallowing etc. It is used for diagnostic purpose by taking biopsy in case of growth, celiac disease, chronic gastritis etc. Plays therapeutic role in endoscopic variceal ligation, polypectomy, stricture dilation. EGDscopy is must for all cases of chronic liver disease [4].

Aims and Objectives

The aim of the study was evaluation of EGDscopy, in terms of indications, findings/disease diagnosed and therapeutic interventions.

Materials and Methodology

A retrospective study of 1030 cases, admitted or seen on outpatient basis in Medical gastroenterology/Internal Medicine department in Bowring and Lady Curzon hospital attached to Bangalore medical college and research institute, Bengaluru. The study period was between September 2016 to August 2018. Irrespective of the sex of the patient, all those aged more than 18 years with upper gastrointestinal ailments, anemia, and chronic liver disease were considered for EGDscopy. Patients with recent myocardial infarction, severe asthma, altered sensorium, uncooperative subjects were excluded. EGDscopy was done after local anesthesia (10% lignocaine) sprays to the throat, using Fujinon gastroscopy in the standard manner.

Statistical Analysis

Data was analyzed using simple, appropriate statistical methods and represented categorically in tables and figures.

Results

A retrospective analysis of prospectively collected data during the period between September 2016 and August 2018 at Bowring and Lady Curzon hospital attached to BMCRI. 1030 cases were taken into consideration. Male sex preponderance was seen (n=643) (Figure 1). Most of them were in age group of 31-59 years (61% of the total sample, Table 1). Among the patients who underwent EGDscopy, epigastric pain abdomen (n=186) and dyspepsia (n=184) were the most common indications. Other indications were chronic liver disease (n=150), dysphagia (n=119), upper GI bleed/hematemesis (n=83), cholelithiasis (n=65). There were few uncommon cases like corrosive ingestion, gastric outlet obstruction, unintentional weight loss etc which were included (Table 2, Figure 2). Table 3 shows gender wise endoscopy findings, 311 males and 108 females had normal upper GI endoscopy.

Age in Years	Number of Cases(1030)	Percentage Distribution (%)
≤30	200	19
31-44	322	32
45-59	301	29
≥60	207	20

Table 1: Age distribution of the cases.

Indications	Number of Cases
Epigastric pain abdomen	186
Dyspepsia + GERD*	184
Chronic liver disease	150
Dysphagia	119
Hematemesis	83
Cholelithiasis	65
Anemia	52
Retroviral disease	27
Vomiting	23
Other indications	
(Altered bowel habits, corrosive	
ingestion, non-cardiac chest pain, gastric outlet obstruction, weight loss etc)	141

*GERD (Gastroesophageal reflux disease).

Table 2: Indications of upper gastrointestinal endoscopy.

Endoscopic Findings	Male (N)	Female (N)	Total (N)&[%]
Gastritis	58	31	89[5]
Growth	28	5	33[3]
Erosive gastritis	12	5	17[1]
Erosive esophagitis	91	23	114[6]
Ulcer	18	10	28[2]
Candidiasis	18	16	34[3]
Esophageal varices	124	33	157[7]
Portal hypertensive gastropathy	160	39	199
Normal study	311	108	419
Others	79	30	109[8]

Table 3: Gender wise EGDscopy findings.

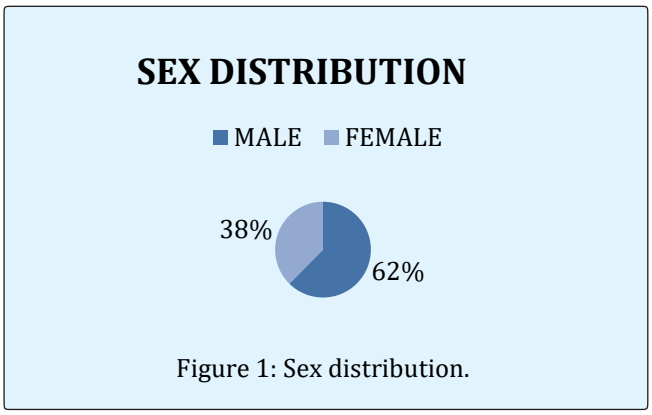
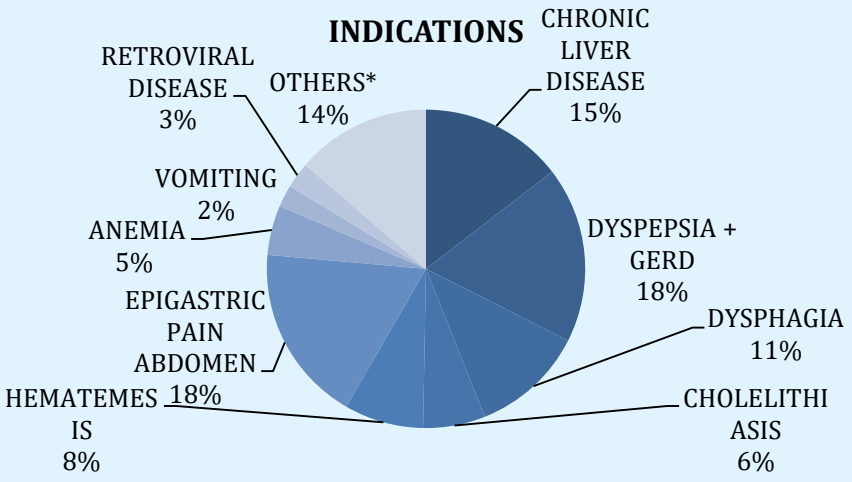


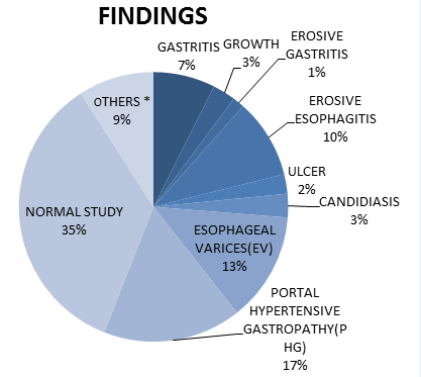
Figure 1: Sex distribution.



*Altered bowel habits, acute pancreatitis, no cardiac chest pain, corrosive ingestion, foreign body sensation/ingestion etc.

Figure 2: Indications for EGDscopy.

Overall the EGDscopy, findings were normal in 35% of the cases, portal hypertensive gastropathy(17%) was the second commonest finding,13% of the patients had esophageal varices, gastritis and esophagitis were seen in 7% and 10% of cases respectively, other rare findings were schatzki ring, Dieulafoy's lesion, gastro esophageal growth, duodenitis, gastric heterotopias, duodenal scattered white spots (Figure 3). Epigastric pain abdomen was the most common indication (n=186), endoscopy findings showed normal study in 50% of these cases (n=93). Pathological findings in patients with epigastric pain abdomen were gastritis(n=37), esophagitis (n=29), other less common findings in cases were duodenitis, gastric ulcer, post cricoid web, gastric heterotopia, hiatus hernia, gastric growth etc. (Figure 4). Among patient with dyspepsia (n=184), normal study was seen in 75patients, followed by gastritis (n=57) and esophagitis (n=42). Other less commonly seen findings were gastro duodenal ulcer, candidiasis, gastric growth, and gastric polyp (Figure 5). In case of chronic liver disease, portal hypertensive gastropathy (n=114) is the predominant finding followed by esophageal varices (n=102) (Figure 6). Among the cases which presented with dysphagia, esophagogastric growth was the commonest pathological finding (n=22) (Figure 7). Patients who presented with hematemesis, 22 cases were found to have esophageal varices and 18 cases had erosive gastritis picture. There were few cases found to have Mallory Weiss tear, gastro duodenal ulcer and dieulafoy's lesion (Figure8). Patient with cholelithiasis, most of them had normal study (n=46).But n=20 had one or the other pathological findings (Figure 9). In cases with anemia, most of the studies were normal though some cases had erosive gastritis, gastro duodenal ulcer, varices, and gastric astral vascular ecstasies (Figure 10). In patients with retroviral disease, few cases were found to have esophageal candidiasis (n=4), varices (n=5), gastritis(n=6), herpes esophagitis(n=1), gastric ulcer(n=1) and schatzki ring (n=1) (Figure 11). In patients with corrosive acid ingestion about 13 out of 25 had Grade 2B injury and more (Figure 12). In patients with vomiting 70% had normal upper GI endoscopy while 30% had GI pathological finding (Figure13). Esophagitis as a possible cause of Non cardiac chest pain was noted in 1/3 rd. of the cases (Figure 14).



*Gastric outlet obstruction(GOO), stricture, corrosive injury, white spots in duodenum, Mallory weiss tear, schatzki ring, postcricoidal web, Gastric antral vascular ectasia (GAVE),etc.

Figure 3: Findings of EGDscopy.

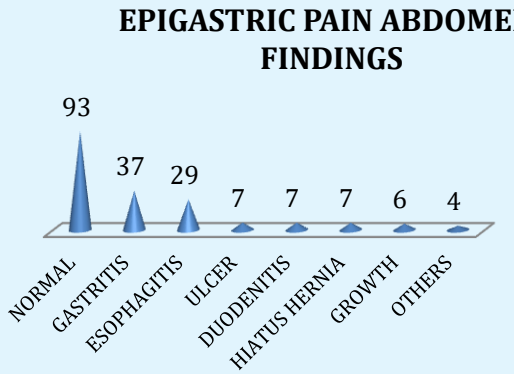


Figure 4: Epigastric pain abdomen findings on EGDscopy.

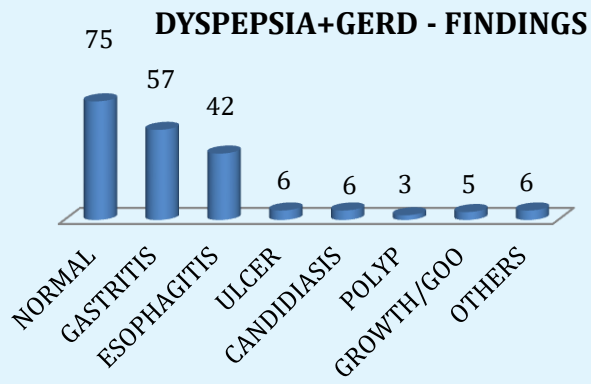


Figure 5: Dyspepsia+GERD findings on EGDscopy.

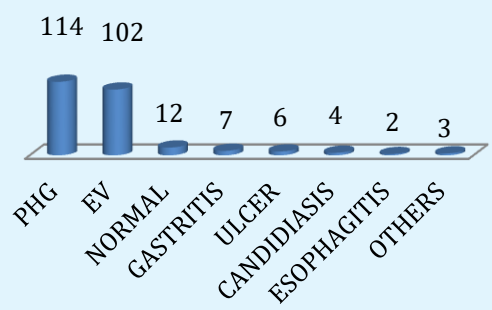


Figure 6: Chronic liver disease findings on EGDscopy.

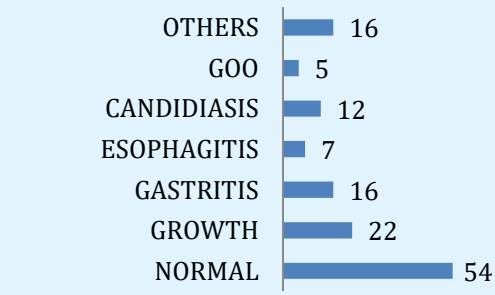


Figure 7: Dysphagia findings on EGDscopy.

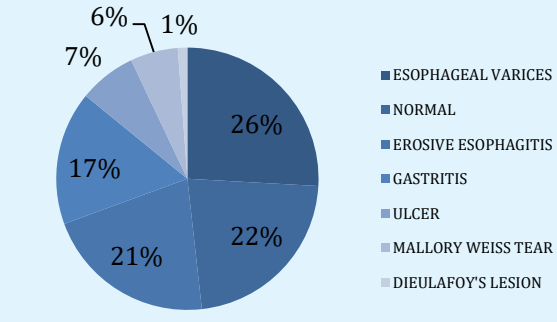


Figure 8: Hematemesis findings on EGDscopy.

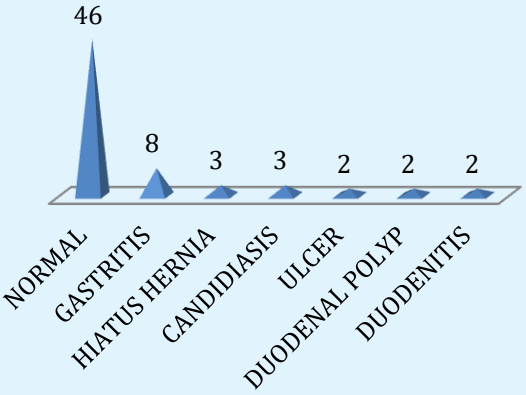


Figure 9: Cholelithiasis findings on EGDscopy.

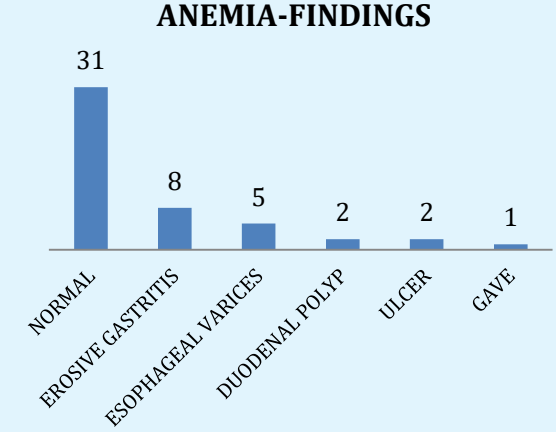


Figure 10: Anemia findings on EGDscopy.

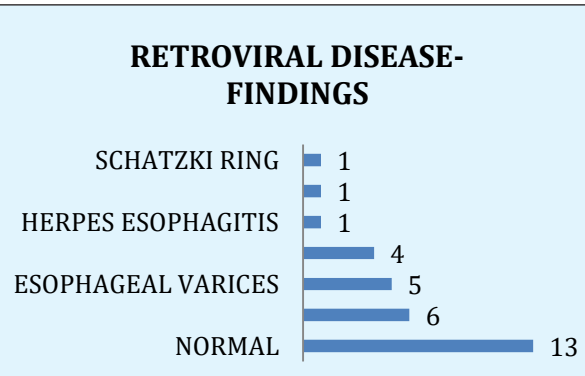
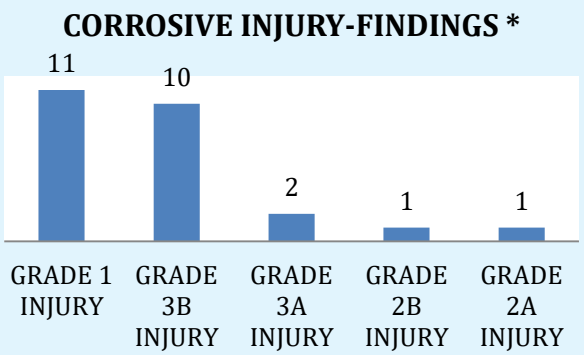


Figure 11: Retroviral disease findings on EGDscopy.



*Based on Zargar classification of Corrosive mucosal injury.

Figure 12: Corrosive injury findings on EGDscopy.

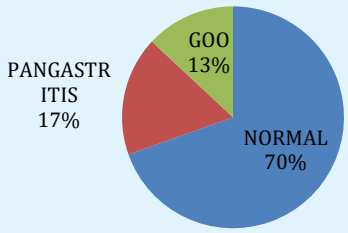


Figure 13: Vomiting findings on EGDscopy.

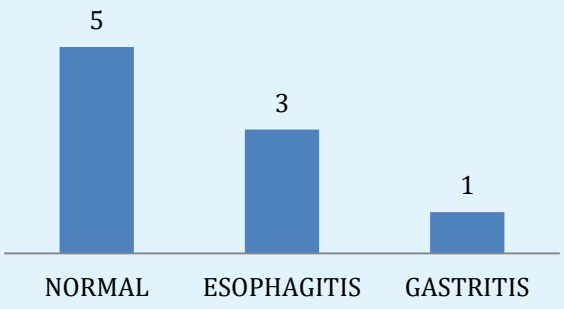


Figure 14: Non-cardiac chest pain findings on EGDscopy.

Discussion

Dyspepsia was one of the most common indications for EGDscopy in our study. We usually test patients with dyspepsia for *H. pylori* infection using Rapid Urease Test (RUT) and treat with triple drug therapy if it is positive. Variceal upper GI bleeding was one of the most common causes of hematemesis in our study which was managed endoscopically with band ligation with very low failure rate. Chronic liver disease, the most common etiology in our study was alcohol followed by chronic viral hepatitis (Hepatitis B and C) and nonalcoholic fatty liver disease. As a protocol, in our hospital every patient undergoes a screening EGDscopy prior to planned cholecystectomy to identify upper GI causes which are co-existing; one third case in our study had pathological findings. In case of long standing intermittent dysphagia mostly for liquids we encountered post-cricoid web which was dilated single time with 15mm Savary Gillard dilator with good results. Corrosive ingestion with corrosive acid/toilet cleaning liquid is very common in this region due to no restriction on buying and selling of acid. The findings in our study were that >50% of our patient had severe mucosal injury (i. e, Grade 2B and above) secondary to corrosive ingestion. In cases of dysphagia with normal EGD mucosa we refer them for esophageal manometry study.

Rand study on the use and misuse of EGDscopy says one of the sixth EGDscopy is inappropriate [9]. In our study it was around 35%. Most common indication was Epigastric pain abdomen followed by dyspepsia+GERD in our study which was comparable to the other study by Lahey clinic [10] and Bashiru Omeiza Ismaila [11]. Patients with dyspepsia+ GERD are almost equal to those with epigastric pain abdomen in our study which is similar to the results of various studies like Taye M, et al. [12] Olokoba AB, et al. [13] and is in contradiction to study conducted in Nigeria by Ismalia, et al. where GI carcinoma being the most common [10]. Chronic abdominal pain associated with post-prandial urgency which is deemed as IBS-D in clinical practice may actually be manifestation of *H. pylori* gastritis with exaggerated gastro colic reflex which promptly gets relieved with anti-*H. pylori* treatment, this observation has been consistently made during the study period. Further studies need to confirm it. In our study, overall the most common pathological findings were portal hypertensive gastropathy and esophageal varices as compared to the study by Sunil kumar, et al. [10] where duodenitis and gastritis were the most common findings. In patients with dyspepsia or epigastric pain abdomen, close to 45-50%

have normal EGD mucosal study. Mosaic like pattern with focal areas of hyperemia in the gastric body mucosa which is an indicator of portal gastropathy in cases of portal hypertension/Chronic liver disease as we all know, also highly correlates with *H. pylori* positivity/gastritis as observed in our study. According to BAVENO IV consensus, EGDscopy is universally to be done in every case of cirrhosis [4]. Similar to a study by Svoboda, P et al. [9] patients with cirrhosis commonly found to have portal hypertensive gastropathy and esophageal varices. In cases of dysphagia, analysis of a National endoscopy database conducted in United states says stricture was the most common finding followed by normal study [7], but in our study normal EGD mucosal studies were predominant(n =54). Dysphagia is not just or pharyngeal or esophageal in origin but *H. pylori* gastritis can cause similar complaints-eradication of which relieves the symptoms in our observation. Patients with gastro duodenal ulcer as a cause of epigastric abdominal pain has decreased due to proton pump inhibitors (PPI) use. Patients with upper gastrointestinal bleed/hematemesis mainly had esophageal varices (n=22) Most of the patients with cholelithiasis and severe anemia found to have normal EGD mucosal study in the majority of cases. Patient with longstanding sore throat or foreign body sensation in the throat mandate EGDscopy as we found most of them to have reflux esophagitis. We encountered a handful of cases with duodenal scattered white spots which in our case were due to chronic nonspecific duodenitis as per histopathology results. In our study, about 30% of the patients had GI causes of vomiting and rest 70% had normal Upper GI endoscopy stressing the point that non-GI causes of vomiting need to be addressed as well. Non-cardiac chest pain patients had esophagitis/gastritis in 4 out of 9 cases; rest had normal upper GI endoscopy that was referred for esophageal manometry. Usually we do EGDscopy with use of 10% lignocaine spray to anaesthetize the throat with negligible number of patients unable to co-operate for the study. Complication rate in our study was around 0.1%. Small sample size and retrospective design may be the lacunae of our study.

Conclusion

The following insights/observations were made during the course of our study-dysphagia is not just OROPHARYNGEAL or esophageal in origin but *H. pylori* gastritis can cause similar complaints, eradication of which relieves the symptoms in our observation. Chronic abdominal pain associated with postprandial urgency which is deemed as Inflammatory Bowel Disease-Diarrhea (IBS-D) may actually be *H. pylori* gastritis with exaggerated gastro-colic reflex which gets relieved with anti- *H. pylori* treatment; further studies are needed to prove this claim. Mosaic like pattern with focal areas of hyperemia in the gastric body mucosa is not just typical of portal hypertensive gastropathy but also can be seen with *H. pylori* gastritis. Corrosive acid ingestion as a mode of suicidal attempt is common in this part of India which can lead to morbidity and even mortality in severe cases, legislative measures need to be put in place to check the sale and use of corrosive acid. Diffuse white spots in duodenum were mostly due to chronic nonspecific duodenitis rather than intestinal lymphangiectasia in our study.

References

1. Fauci AS, KasperDL, Longo DL, Stephen LH, Larry JJ, et al. (2018) Harrison's principles of internal medicine. 18th (Edn.), The Mc-Graw Hill companies, United States of America, pp: 2182.

2. Andrew K, James S Dooley, Anna SF Lok, E Jenny Heathcote (2011) Burroughs Sherlock's Diseases of the Liver and Biliary system. 12th (Edn.), Blackwell Publishing Ltd, pp: 163.

3. Douglas G (2017) Upper gastrointestinal endosopy for GI fellows. Springer publishers, pp: 1.

4. Sebastiani G, Tempesta D, Fattovich G, Castera L, Halfon P, et al. (2010) Prediction of esophageal varices in hepatic cirrhosis by simple serum non-invasive markers: Results of a multicenter, large-scale study J Hepatol 53(4): 630-638.

5. Gibb SP, Lancey JGS, Tarsbes AM (1986) Use of fibreoptic endoscopy in diagnosis and therapy of upper GI disorders. Medical clinics of North America 70(6).

6. Ismalia BO, Misauno MA (2013) Gastrointestinal endoscopy in Nigeria- a prospective 2 year audit. Pan Afr Med J 14: 12.

7. Krishnamurthy C, Hilden K, Peterson KA, Mattek N, Alder DG, et al. (2012) Endoscopic findings in patients presenting with dysphagia: analysis of a national endoscopy database. Dysphagia 27(1): 101-105.

8. Khan KL, Kosecoff J, chassin MR (1988) The use and

misuse of GI endoscopy. Aun Inferna Medicin 109: 664-670.

9. Svoboda P, Ehrmann J, Klvana P, Machytka E, Rydlo M, et al. (2007) Endoscopic findings in upper gastrointestinal tract in patients with liver cirrhosis. Vnitr Lek 53(9): 968-971.

10. Sunilkumar, Pandey HI, Verma A, Deb PP (2014) Prospective analysis of 500 cases of upper gi endoscopy at Tata Main Hospital. IOSR-JDMS 13(1): 21-25.

11. Ismaila BO, Misauno MA (2013) Gastrointestinal endoscopy in Nigeria-a prospective two year audit. Pan Afr Med J 14: 22.

12. Taye M, Kassa E, Mengesha B, Gemechu T, Tsega E (2004) Upper GI endoscopy: a review of 10,000 cases Ethiop Med J 42(2): 97-107.

13. Olokoba AB (2009) Upper GI tract endoscopy indication in northern Nigeria. J Coll Physicians Surg Pak 19(5): 327-328.