

Upper Gastrointestinal Endoscopy in Lumbini Medical College and Teaching Hospital: A Retrospective Study of Two Years

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ABSTRACT:

Introduction: Upper gastrointestinal (UGI) endoscopy includes visualization of the oropharynx, esophagus, stomach, and proximal duodenum, with real time assessment and interpretation of the findings encountered. An upper endoscopy is indicated in the diagnostic evaluation of signs and symptoms of a wide variety of gastrointestinal disorders. Besides there are some therapeutic implication of the endoscopy. This study was conducted to study the spectrum of diseases found during the upper gastrointestinal endoscopy in patient presenting in Lumbini Medical College and Teaching Hospital (LMCTH). **Methods:** This was a retrospective observational study carried out in LMCTH. The endoscopic record book of the patients who underwent UGI endoscopy for various reasons from February 2011 to 2013 was analysed. The risk factor of smoking and alcohol was also included and analysed in the study. **Results:** All together 550 upper GI endoscopy was performed in the two years. There were 290 males (52.72%) and females were 260 (47.38%). The mean age was 45.7 years ($SD=17.9$). Most of the patient belonged to the age group 41 to 80 years (71%). Among total patients, 209 (38%) of them were found to be macroscopically normal. Of those who had positive endoscopic findings; 165 (48.4%) had gastritis and 36 (10.6%) had duodenal ulcer, esophageal varices was in 30 (8.8%), gastric carcinoma in nine (2.6%) of cases. Cigarette smoking was significantly associated with the presence of peptic ulcer disease ($p=0.01$) and malignancy of gastrointestinal tract ($p=0.03$). Alcohol intake was non-significantly related to peptic ulceration ($p=0.07$) and malignancy of gastrointestinal tract ($p=0.09$). **Conclusion:** Upper gastrointestinal endoscopy is a safe and useful procedure for investigating patients with gastrointestinal complains. Gastritis was the most common finding among the patients who had abnormal endoscopy followed by duodenal ulcer and esophageal varices.

Keywords: endoscopy • gastritis • peptic ulcer disease • varices

INTRODUCTION:

Upper gastrointestinal diseases are major

causes of morbidity and mortality.^{1,2} Upper gastrointestinal endoscopy (UGIE) has become a corner stone in the diagnosis and treatment of many of gastrointestinal disorders.³ The direct visualization of the entire esophagus, stomach and duodenum with the facility to obtain material for analysis and to perform various therapeutic measures, make endoscopy superior to other diagnostic procedures.^{4,5} Upper endoscopy, also referred to as esophago-gastro-duodenoscopy (EGD), is performed by passing a flexible endoscope through the mouth into the esophagus, stomach, bulb, and second duodenum. The procedure is the best method of examining the upper gastrointestinal mucosa.⁶

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METHODS:

Patients with various complaints presenting in Lumbini Medical College and Teaching Hospital (LMCTH) were retrospectively analyzed. The endoscopic record book was reviewed from February 2011 to 2013, total duration of two years. All clinico-epidemiological data were reviewed and analyzed. All patients were subjected for upper GI endoscopy after taking prior consent.

Premedication was given with lidocaine mouth wash. Fujinon video endoscope was used to visualize the upper GI tract. It was disinfected with 2% glutaraldehyde solution before and after the procedure. Esophageal, gastric and duodenal mucosa was carefully examined for evidence of inflammation, ulceration, erosions. Mucosal biopsy, followed by histopathological examination was done if mucosal abnormality was found. Data were analyzed using software SPSS 21 version.

RESULTS:

A total of 550 upper GI endoscopy was performed in two years from February 2011 to 2013. There were 290 males (52.72%) and 260 females (47.27%). The male to female ratio was 1.1:1. The age range was from 13 to 90 years. The mean age was 45 year ($SD=17.9$). Majority were in the age group 41-80 years. Regarding the endoscopic findings, the majority of the patients had gastritis 165 (48.4%). Duodenal ulcer was found among 36(10.6%) patients, duodenitis 33 (9.7%), esophageal varices 30 (8.8%), gastric ulcer 23(6.7%).

DISCUSSION:

Nepal is a country with varying environmental regions and the inhabitants belong to wide ethnic diversities with different cultures and social habits. There are few hospital based studies regarding the findings of the upper gastrointestinal endoscopy. The procedure is done in various hospitals of Nepal and there are few published data regarding the findings of the procedure. So, this study was done to address those lacking data of the people of Nepal in this part of the country.

This study is based on the retrospective analysis of the patients presenting with various complaints. The procedure was safe and there was no any major complication among the patients. Majority of the patient who underwent endoscopy were male 290 (52.72%) and the majority belonged

to the age group 41-80 which was similar to the studies done before.⁷

The most frequent disorder diagnosed by upper gastrointestinal endoscopy is gastritis 165 (48.4%). The finding is consistent with the previous review done by Kamiya et al, who performed a large review done in six different countries to investigate the situation on endoscopic diagnosis and treatment of gastrointestinal disorders in east Asian countries. They found that the gastritis was the most frequently occurring diagnosis in all Asian countries.⁸ One reason of this result is that the prevalence of *Helicobacter pylori* infection is still high in east Asian countries. In addition, these patients of gastritis probably include functional dyspepsia patients, who have chronic upper gastrointestinal symptoms with no mucosal lesion on endoscopy. Gastritis will be on the decline with the improvement of hygiene and decrease in *Helicobacter pylori* prevalence in future. Duodenal ulcer was quite high 36 (10.6%) which might be related to high rate of *H. pylori* infection in this part of the world. *H. pylori* is implicated in the occurrence of duodenal ulcer and it is more common in the developing countries, and Nepal is not an exception.⁹⁻¹¹

Gastric ulcer was found in 23 (6.7%) of the patients which was similar to the studies done by Groenen et al.¹² Esophageal varices was quiet common in our study which turned out to be 30 (8.8%). This might be due to high rate of alcohol in this part of Nepal. Alcohol is one of the risk factors for the cirrhosis of liver and esophageal varices is a common occurrence in presence of cirrhosis of liver.¹³

We also analyzed the frequent occurrence of gastrointestinal malignancy and peptic ulcer disease among smokers and alcohol consumer. In our study, we found there was a statistically significant relation of smoking to the occurrence of gastrointestinal malignancy. The findings are consistent with the studies done in the other part of the world showing the higher occurrence of GI malignancies among the smokers.¹⁴⁻¹⁷ Regarding the alcohol intake it was related but not statistically significant. In some of the previous studies, consistent association between alcohol consumption and the risk of gastric cancer has not been demonstrated.^{18,19} Interestingly, a study from Europe even suggested that daily intake of wine may be protective.¹⁸ Cigarette smoking was significantly related to the occurrence peptic ulcer disease in this study. Studies primarily performed

in the pre *H. pylori* era found that smoking had an important facilitative role for peptic ulcer disease.²⁰⁻²³ Regarding alcohol there was non-significant relation with the occurrence of peptic ulcer disease alcohol in high concentrations damages the gastric mucosal barrier to hydrogen ions and is associated with acute gastric mucosal lesions characterized by mucosal hemorrhages. Alcohol also stimulates acid secretion.²⁴ The contents of alcoholic beverages other than alcohol are also strong stimulants of acid secretion. Despite these acute effects, there is no evidence that alcohol intake causes or exacerbates chronic peptic ulcer disease.^{25,26} Modest alcohol consumption may even promote ulcer healing.^{27,28}

In contrast, alcohol abuse interferes with patient compliance and ulcer healing.²⁹

Retrospective nature of the study is the main limitation. Due to this, we could not follow up the outcome of those patients with the various diagnoses. A further prospective study with detail clinical evaluation is required to verify or refute the findings in our study results.

CONCLUSION:

Gastritis is still the most common endoscopic finding in our study. However peptic ulcer disease and the esophageal varices are also common.

REFERENCES:

- Spiller R. ABC of the upper gastrointestinal tract (Clinical Review). Anorexia, nausea, vomiting and pain. *BMJ*. 2001;323:1354-7.
- Kolk H. Evaluation of symptom presentation in dyspeptic patients referred for uppergastrointestinal endoscopy in Estonia. *Croat Med J*. 2004;45:592-8.
- Editorial. Endoscopy in general practice. *BMJ*. 1995;310:816-7.
- Axon ATR, Bell GD, Jones RH et al. Guidelines on appropriate gastrointestinal endoscopy. *BMJ*. 1995;310:853-6.
- Agbakwuru EA, Fatusi AO, Ndububa DA et al. Pattern and validity of clinical diagnosis of upper gastrointestinal diseases in south-west Nigeria. *Afr Health Sci*. 2006;6:98-103.
- Loius M, Wong KS, Mark K. Gastrointestinal endoscopy. Technology status evaluation report. 2007;66:872-80.
- Suleiman SI, Salih SY, Ahmed ZE, Kimora K. Upper gastrointestinal fiberoptic endoscopy in Khartoum. *Sud Med J*. 1977;15:19-24.
- Kamiya T, Joh T et al. Consensus of the Present and Prospects on Endoscopic Diagnosis and Treatment in East Asian Countries. *Diagnostic and therapeutic endoscopy*. 012:808365.9 pages. doi: 10.1155/2012/808365.
- T. ytgat G, Langenberg W, Rauws E, Rietra P. *Campylobacter* like organism (CLO) in the human stomach. *Gastroenterol*. 1985;88:1620-4.
- Borody TJ, George LL, Brandl S et al. *Helicobacter pylori* negative duodenal ulcer. *Am J Gastroenterol*. 1991;86:1154-7.
- Li Z, Zou D, Ma X et al. Epidemiology of peptic ulcer disease: endoscopic results of the systematic investigation of gastrointestinal disease in China. *Am J Gastroenterol*. 2010;105:2570-7.
- Groenen MJ, Kuipers EJ, Hansen BE, Ouwendijk RJ. Incidence of duodenal ulcers and gastric ulcers in a Western population: Back to where it started. *Can J Gastroenterol*. 2009 September;23(9):604-8.
- Dufour MC: Alcoholic liver disease. In *Glepidemiology*. 1st edition. Edited by Talley NJ, Locke III GR, Saito Y. Malden, Massachusetts: Blackwell Publishing, Inc; 2007:231-7.
- Trédaniel J, Boffetta P, Buiatt E et al. Tobacco smoking and gastric cancer: review and meta-analysis. *Int J Cancer*. 1997;72:565-73.
- González CA, Pera G, Agudo A et al. Smoking and the risk of gastric cancer in the European Prospective Investigation Into Cancer and Nutrition (EPIC). *Int J Cancer*. 2003;107:629-34.
- Barstad B, Sørensen TI, Tjønneland A, et al. Intake of wine, beer and spirits and risk of gastric cancer. *Eur J Cancer Prev*. 2005;14:239-43.
- Freedman ND, Abnet CC, Leitzmann MF et al. A prospective study of tobacco, alcohol, and the risk of esophageal and gastric cancer subtypes. *Am J Epidemiol*. 2007;165:1424-33.
- Barstad B, Sørensen TI, Tjønneland A et al. Intake of wine, beer and spirits and risk of gastric cancer. *Eur J Cancer Prev*. 2005;14:239-43.
- D'Avanzo B, La Vecchia C, Franceschi S. Alcohol consumption and the risk of gastric cancer. *Nutr Cancer*. 1994;22:57-64.
- Martin DF, Montgomery E, Dobek AS et al. *Campylobacter pylori*, NSAIDS, and smoking: risk factors for peptic ulcer disease. *Am J Gastroenterol*. 1989;84:1268-72.
- Anda RF, Williamson DF, Escobedo LG, Remington PL. Smoking and the risk of peptic ulcer disease among women in the United States. *Arch Intern Med*. 1990;150:1437-41.
- Korman MG, Hansky J, Eaves ER, Schmidt GT. Influence of cigarette smoking on healing and relapse in duodenal ulcer disease. *Gastroenterol*. 1983;85:871-4.
- Rosenstock S, Jørgensen T, Bonnevie O, Andersen L. Risk factors for peptic ulcer disease: a population based prospective cohort study comprising 2416 Danish adults. *Gut*. 2003;52:186-93.
- Peterson WL, Barne C, Walsh JH. Effect of intragastric infusions of ethanol and wine on serum gastrin concentration and gastric acid secretion. *Gastroenterology*. 1986;91:1390-5.
- Aldoori WH, Giovannucci EL, Stampfer MJ et al. A prospective study of alcohol, smoking, caffeine, and the risk of duodenal ulcer in men. *Epidemiol*. 1997;8:420-4.
- Armstrong D, Arnold R, Classen M et al. RUDER—a prospective, two-year, multi-center study of risk factors for duodenal ulcer relapse during maintenance therapy with ranitidine. RUDER Study Group. *Dig Dis Sci*. 1994;39:1425-33.
- Sonnenberg A, Müller-Lissner SA, Vogel E et al. Predictors of duodenal ulcer healing and relapse. *Gastroenterol*. 1981;81:1061-7.
- Baaglia B, Di Mario F, Doo P, Naccarato R. Alcohol intake and acute duodenal ulcer healing. *Am J Gastroenterol*. 1990;85:1198-200.
- Reynolds JC. Famodine therapy for active duodenal ulcers. A multi-variate analysis of factors affecting early healing. *Ann Intern Med*. 1989;111:742-6.