

## “Outcome of Clinical Indication of Upper Gastro-Intestinal Endoscopy in (BSMMU), Dhaka, Bangladesh”

Taj Uddin Ahmed<sup>1</sup>, Md. Abdus Salam<sup>2</sup>, A. K. Al Miraj<sup>3</sup>, Md. Arif Uddin Khan<sup>4</sup>, Hasan Imam<sup>5</sup>, Shermin Akter<sup>6</sup>, Sohel Mahmud Khan<sup>7</sup>, Md. Kawsur Ahmed<sup>8</sup>, Md. Arifur Reza Sikder<sup>9</sup>, Muhammad Mahmudul Haque<sup>10</sup>

<sup>1</sup>Medical Officer, Department of Gastroenterology, BSMMU, Dhaka, Bangladesh

<sup>2</sup>Medical Officer, Department of Gastroenterology, BSMMU, Dhaka, Bangladesh

<sup>3</sup>Research Assistant, Department of Vascular Surgery, BSMMU, Dhaka, Bangladesh

<sup>4</sup>Junior Consultant (Surgery), Dept. Of Vascular Surgery, BSMMU, Dhaka, Bangladesh

<sup>5</sup>Assistant Professor Department of Internal Medicine, BSMMU, Dhaka, Bangladesh

<sup>6</sup>RMO, Trauma Centre & Diagnostic Centre, Dhaka, Bangladesh

<sup>7</sup>Consultant, Dept. Of Orthopaedic Surgery, BSMMU, Dhaka, Bangladesh

<sup>8</sup>Assistant Professor, Orthopedic surgery, City Medical College & Hospital, Dhaka, Bangladesh

<sup>9</sup>Medical Officer, Department of Cardiac Surgery, BSMMU, Dhaka, Bangladesh

<sup>10</sup>Assistant Professor, Department of Anaesthesiology, Shaheed Ziaur Rahman Medical College & Hospital, Bogura, Bangladesh

Date of Submission: 10-1-2021

Date of Acceptance: 31-01-2021

**ABSTRACT:** **Introduction:** Upper gastrointestinal symptoms like heartburn, belching, dyspepsia are increasing in modern world due to changes in food habits and increased use of refined food. In this regard Upper gastro intestinal endoscopy (UGIE) carries utmost importance in diagnosis and treatment and is a common indication inpatients of upper gastrointestinal complaints with normal ultrasonography/CT abdomen. **Objective:** This study was done to identify different causes of upper gastrointestinal endoscopy in rural hospital and incidence of the same in the modern world, in comparison with previous study. **Methodology:** This was a retrospective study in Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh from 2017 to 2019 on a study population of 911 considering all patients who had come with anemia, dyspepsia, suspected gastrointestinal bleed, dysphagia, and melena. The upper gastrointestinal endoscopy was done in our gastroenterology department the patients who were selected were aged more than 15 years, both genders were included. **Results:** A total of 911 patients who underwent UGIE during the three-year study period were analyzed. Among them 645 were males (70.8%) and 266 were females (29.2%). The maximum number of people who underwent the procedure were within 20-60 year age group and there was decreasing trends before and after this age group. Patients underwent esophago gastro

dudodenoscopy mainly because of dyspepsia 265(29%) and pain abdomen 247(27.1%), followed by gastro esophageal reflux symptoms. The indication for upper gastrointestinal endoscopy was considered appropriate according to ASGE criteria, endoscopy was normal in 319 (35%) patients. The study documented that erosive gastritis (16.13%) and Non-erosive gastritis (14.16%), esophagitis (11.96%) and esophageal varices as the main common diseases encountered in upper esophagoscopy. **Conclusion:** We have demonstrated increased frequency of gastrointestinal diseases such as gastritis (erosive and non-erosive), gastro esophageal reflux disease as a frequent endoscopic findings and dyspepsia was the main indication to perform endoscopy in our hospital.

**Keywords:** Upper Gastrointestinal lesions; Endoscopic Biopsy; Histopathology.

### I. INTRODUCTION

Upper gastrointestinal symptoms like heartburn, belching, dyspepsia are increasing in modern world due to changes in food habits and increased use of refined food. In this regard Upper gastro intestinal endoscopy (UGIE) carries utmost importance in diagnosis and treatment and is a common indication inpatients of upper gastrointestinal complaints with normal ultrasonography/CT abdomen. Since the procedure is done with local anesthetic, it can be

done on all patients who come with upper gastrointestinal symptoms on outpatient basis. Upper gastrointestinal scope is flexible fiber optic cable with camera attached at tip, which is inserted through mouth and is passed up to the duodenum. The common endoscopic indications are gastritis, esophagitis, gastroesophageal reflux disease, peptic ulcers disease, esophageal varices according to previous studies [1]. Dyspepsia is defined as a chronic or frequently recurring epigastric pain or discomfort, which is believed to originate in the gastroduodenal region [2], and is a common problem impacting on the patient's quality of life. This may be associated with other upper gastro-intestinal (GI) symptoms, such as heartburn, postprandial fullness, and early satiety as shown in previous articles. Upper gastrointestinal bleeding that is bleeding into esophagus, stomach or duodenum, account for one of common indications for upper gastrointestinal endoscopy after dyspepsia. The common causes for upper gastrointestinal bleeding are peptic ulcer disease, esophageal varices (among cirrhotic patients), Mallory Weiss tear and Porto- hypertensive gastropathy [3]. Upper gastro intestinal endoscopy provides baseline data on the age distribution of major upper gastrointestinal diseases among the population. The influence of demographic changes on the pattern of these diseases can be evaluated against our findings in the future [4].

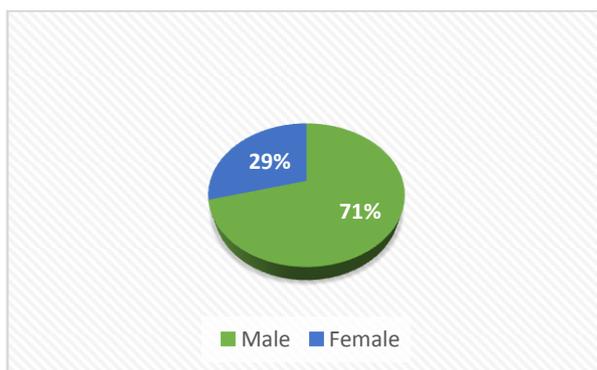
## II. METHODOLOGY

This was a retrospective study in Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh from 2017 to 2019 on a study population of 911 considering all patients who had come with anemia, dyspepsia, suspected gastrointestinal bleed, dysphagia, and melena. The upper gastrointestinal endoscopy was done in our gastroenterology department the patients who were selected were aged more than 15 years, both genders were included, written consent was taken along with indications and complications of procedure were explained to the patient in their

own understandable language. Furthermore an independent investigator unaware of the result of the study was appointed to assess the appropriateness of esophagogastroduodenoscopy according to ASGE 1992 criteria [5]. Patients who were excluded from the study were the one who were already diagnosed with illness in previous endoscopy and those who were on anti-H. pylori treatment regimen and also those who had more than one endoscopic finding. The data was collected using Microsoft excel software and was classified into indications for performing the endoscopy and their obtained results. The results were further classified into age and sex.

## III. RESULTS

A total of 911 patients who underwent UGIE during the three-year study period were analyzed. Among them 645 were males (70.8%) and 266 were females (29.2%). The maximum number of people who underwent the procedure were within 20-60 year age group and there was decreasing trends before and after this age group. None of the patients were on aspirin or proton pump inhibitors. Patients underwent esophago gastro duodenoscopy mainly because of dyspepsia 265 (29%) and pain abdomen 247 (27.1%), followed by gastro esophageal reflux symptoms 112 (12.29%), dysphagia 107 (11.74%), suspected varices 72 (7.9%), gastrointestinal bleeding 64 (7.02%), anemia had the least of all indication 44 (4.82%). The indication for upper gastrointestinal endoscopy was considered appropriate according to ASGE criteria, endoscopy was normal in 319 (35%) patients. Erosive gastritis is the most frequent diagnosis 147 (16.13%), followed by non-erosive gastritis 129 (14.16%), followed by esophagitis 109 (11.96%), esophageal varices 44 (4.82%), carcinoma of esophagus 33 (3.62%), erosive duodenitis and duodenal ulceration in 31 patients (3.4%) each, gastric ulcer 24 (2.63%), hiatus hernia 21 (2.3%), carcinoma of stomach 8 (0.87%).



**Figure-1:** Sex distribution number of patients.

**Table-1:** Age distribution of Upper Gastro-Intestinal Endoscopy patients (N=911)

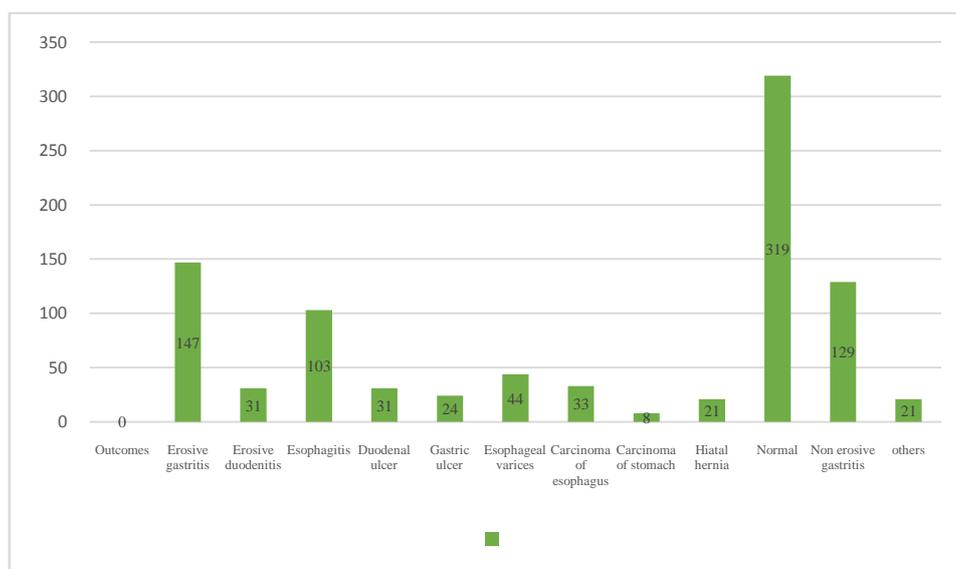
| Age distribution (years) | Number (n) | Percentage (%) |
|--------------------------|------------|----------------|
| <20                      | 16         | 1.7            |
| 21-40                    | 293        | 32.16          |
| 41-60                    | 396        | 43.4           |
| 61-80                    | 194        | 21.29          |
| >80                      | 12         | 1.3            |

**Table-2:** Indication of Upper Gastro-Intestinal Endoscopy (N=911)

| Indications        | Number (n) | Percentage (%) |
|--------------------|------------|----------------|
| Dyspepsia          | 265        | 29             |
| Dysphagia          | 107        | 11.74          |
| Reflux symptoms    | 112        | 12.29          |
| Suspected GI bleed | 64         | 7.02           |
| Suspected varices  | 72         | 7.9            |
| Anemia             | 44         | 4.82           |
| Pain abdomen       | 247        | 27.1           |

**Table-3:** Outcome of Upper Gastro-Intestinal Endoscopy (N=911)

| Outcomes               | Number (n) | Percentage (%) |
|------------------------|------------|----------------|
| Erosive gastritis      | 147        | 16.13          |
| Erosive duodenitis     | 31         | 3.4            |
| Esophagitis            | 103        | 11.96          |
| Duodenal ulcer         | 31         | 3.4            |
| Gastric ulcer          | 24         | 2.63           |
| Esophageal varices     | 44         | 4.82           |
| Carcinoma of esophagus | 33         | 3.62           |
| Carcinoma of stomach   | 8          | 0.87           |
| Hiatal hernia          | 21         | 2.3            |
| Normal                 | 319        | 35             |
| Non erosive gastritis  | 129        | 14.16          |
| others                 | 21         | 2.3            |



**Figure-2:** Outcome of Upper Gastro-Intestinal Endoscopy.

#### IV. DISCUSSION

Gastrointestinal (GI) diseases are sources for substantial morbidity and mortality and cost in developing as well as in developed countries [6]. The purpose of the study is to find out the common indication for esophagogastroduodenoscopy. Dyspepsia and abdominal pain were the single most common reason for performing endoscopy in this study and pattern has remained the same compared to two decades ago [7]. Dyspepsia has increased by 3.3% more in my study compared to the study done 20 years back by Liebermann et al., [7], probably due to increasing use of NSAID and modern lifestyle. The study documented that erosive gastritis (16.13%) and Non-erosive gastritis (14.16%), esophagitis (11.96%) and esophageal varices as the main common diseases encountered in upper esophagoscopy. Gastritis is a heterogeneous pathological condition, responsible for the incidence of many gastrointestinal diseases accounting to 62% which is backed by western literature [8]. Gastritis is the most common pathology reported in this study which is similar to study done in Sudan by Elhadi A. et al., [9]. The only difference is the prevalence of gastritis in this setting is mainly due to alcohol consumption and also due NSAID abuse. Reflux symptoms have decreased by 5% compared to studies done two decade ago by Lieberman et al, gradually owing to increase use of proton pump inhibitors and other acid suppressive medications [7]. In recent studies there has been evidence H.pylori colonization to have conferred protection against acid reflux

(GERD) probably due to H.pylori induced hypochlorhydria particularly among the cag A strains [9]. In the present study, endoscopy was undertaken in all patients referred with a provisional diagnosis related to the upper gastrointestinal tract, in many cases without specific symptoms or relevant signs. The procedure resulted in a significant yield of pathological findings and was extremely well tolerated with no complications. The low incidence of malignancy (1%) in the group contrasts with the 15 % reported by Lockhart et al., [10].

#### V. CONCLUSION

We have demonstrated increased frequency of gastrointestinal diseases such as gastritis (erosive and non-erosive), gastro esophageal reflux disease as a frequent endoscopic findings and dyspepsia was the main indication to perform endoscopy in our hospital. Compared to previous decade there has been gradual rise in GERD which can be attributed to changes in lifestyle and/or a high fat diet with lack of exercise, leading to obesity. Preventive measures should be adopted to cope with the situation and to prevent the serious complications of gastritis and esophageal diseases especially GERD in our population.

#### REFERENCES:

- [1]. Ageely H. Indications and Findings of Upper Gastrointestinal Endoscopy (UGIE) in Patients of Gizan-Saudi Arabia: A Retrospective Study. World Family

- Medicine Journal: Incorporating the Middle East Journal of Family Medicine. 2015 Dec; 99(3029):1-7.
- [2]. Veldhuyzen van Zanten SJ, Flook N, Chiba N, Armstrong D, Barkun A, Bradette M, Thomson A, Bursey F, Blackshaw P, Frail D, Sinclair P. An evidence-based approach to the management of uninvestigated dyspepsia in the era of *Helicobacter pylori*. *CMAJ: Canadian Medical Association Journal*. 2000 May 3; 162.
- [3]. kovachTOG,Jensen DM. initial management of UGI bleeding in portal hypertension.in Rutherford rb ,ed vascular surgery,5thed.philadelphia : saunders 1999;117:59-70.
- [4]. Ayoola EA, Al-Rashed RS, Al-Mofleh IA, Al-Faleh FZ, Laajam M. Diagnostic yield of upper gastrointestinal endoscopy in relation to age and gender: a study of 10112 Saudi patients. *Hepato-gastroenterology*. 1996; 43(8):409-15.
- [5]. Al-Romaih WR, Al-Shehri AM. Appropriateness of upper gastrointestinal endoscopy referrals from primary health care. *Annals of Saudi medicine*. 2006 May; 26(3):224-7.
- [6]. Peery AF, Dellon ES, Lund J, Crockett SD, McGowan CE, Bulsiewicz WJ, Gangarosa LM, Thiny MT, Stizenberg K, Morgan DR, and Ringel Y. Burden of gastrointestinal disease in the United States: 2012 update. *Gastroenterology*. 2012 Nov 1; 143(5):1179-87.
- [7]. Lieberman DA, De Garmo PL, Fleischer DE, Eisen GM, Helfand M. Patterns of endoscopy use in the United States. *Gastroenterology*. 2000 Mar 1; 118(3):619-24.
- [8]. Elhadi AA, Mirghani HO, Merghani TH, Mohammed OS, Eltoum HA. Pattern of Endoscopic Findings of Upper Gastrointestinal Tract in Omdurman Teaching Hospital, Sudan. *Sudan Journal of Medical Sciences*. 2014; 9(2):71-4.
- [9]. Al-Humayed SM, Mohamed-Elbagir AK, Al-Wabel AA, Argobi YA. The changing pattern of upper gastro-intestinal lesions in southern Saudi Arabia: an endoscopic study. *Saudi journal of gastroenterology: official journal of the Saudi Gastroenterology Association*. 2010 Jan; 16(1):35.
- [10]. Lockhart SP, Schofield PM, Gribble RJN, Baron JH. Upper gastrointestinal endoscopy in the elderly. *BrMedJ* 1985; 290: 283.