



Esophageal and Stomach Lesions: A Prospective Study on Endoscopic and Histopathological Diagnosis

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Abstract

Background: Upper Gastrointestinal tract disorders are one of the most commonly encountered problems in clinical practice with a high degree of morbidity and mortality and endoscopic biopsy is common procedure performed in the hospital for a variety of benign and malignant lesions. Endoscopic procedure is incomplete without biopsy and histopathology is the gold standard for the diagnosis endoscopically detected lesions.

Methods: This prospective study was conducted at a private diagnostic and research institute at Cumilla, Bangladesh. 60 endoscopic biopsy samples from the lesions of esophagus and stomach received from January 2020 to July 2021 were included in this study. Endoscopic biopsy specimens were processed by conventional method and the slides were stained with H & E stain and examined under the light microscope and reviewed by another consultant histopathologist. All the relevant data were noted in a pre-designed sheet and analyzed statistically. **Results:** Out of 60 cases, 63.3% were male and 36.7% were female and the age of study population ranged from 22 years to 78 years with the mean of 55.5. Among 60 cases, 18 (30%) cases were esophageal biopsy and 42 (70%) cases were gastric biopsy. Among esophageal cases- 11 (61.1%) diagnosed as esophageal malignancy by endoscopic procedure and on histopathological examination 12 (80%) cases diagnosed as squamous cell carcinoma and 03 (20%) cases as adenocarcinoma. Regarding above findings, 61.1% cases were diagnosed as carcinoma endoscopically but the histopathological diagnosis of esophageal carcinoma was 83.3%. In this study, 42 biopsy samples were taken from the stomach and endoscopist reported 5 (12.0%) cases as suspected for malignancy and 16 (38.1%) cases as malignancy. On histopathological examination 22 (52.4%) cases were diagnosed as adenocarcinoma of stomach where 15 (68.2%) were intestinal type and 07 (31.8%) were diffuse type. Other histopathological diagnosis were gastritis 08 (19.0%), non-specific gastric ulcer 08 (19.0%) and hyperplastic polyp 04 (9.6%). **Conclusions:** Endoscopy followed by histopathological examination play important role for the diagnosis and management of upper GIT lesions. We agree with other authors who have concluded that histopathology is mandatory for accurate diagnosis.

Keywords:- Esophageal and stomach lesion, Endoscopy, Histopathology.

INTRODUCTION

Human GIT (gastrointestinal tract) is long and tortuous is an important site for wide variety of lesions which include congenital, inflammatory and neoplastic conditions.^[1,2,3] Over the years it has been realized that the endoscopic appearances are highly suggestive but are not pathognomic and they required histopathological evaluation for confirmation. In endoscopic biopsy reporting of gastrointestinal tract, the diagnosis of malignancy is easy and well accepted by the clinicians especially when the growth is obvious on endoscopy. Then the job of the pathologist becomes easy enough to give other details related to malignancy. But the real skillful task is in cases of non-neoplastic lesions. Here is the role of specialty reporting pathologist having experience and knowledge about the clinical and endoscopic spectrum of the disease. Many a times, severity of the lesion is more on endoscopy but the biopsy from that site shows only mild inflammation e.g., gastritis or duodenitis.^[4,5,6,7]

The common lesions of esophagus include esophagitis, esophageal polyp, benign and malignant neoplasm of esophagus and the gastric lesions include gastritis, gastric ulcer, polyp, gastric carcinoma and gastric lymphoma. Among the gastric lesion helicobacter pylori (*H. pylori*) infection has been associated with gastritis peptic ulcer, gastric adenocarcinoma and gastric lymphoma.^[8]

The appearances of endoscopic findings may be valuable in diagnosis but histopathological examination of biopsy specimens reveal more accurate and detailed information.^[9] For GIT lesions endoscopic procedure is incomplete

without biopsy and histopathology is the gold standard for the diagnosis of endoscopically detected lesions.^[10]

MATERIAL AND METHODS

This prospective study was conducted at a private diagnostic and research institute at Cumilla, Bangladesh. A total of 60 endoscopic biopsy samples from lesions of the esophagus and stomach received from January 2020 to July 2021 were included in this study. The endoscopy was done by using a flexible fiber optic Endoscope by a specialist physician. After obtaining the biopsy sample from the esophagus and stomach preserved into a small labeled container, containing 10% formalin. After that specimens were processed by conventional method and the slides were stained with H & E stain and examined under the light microscope and reviewed by another consultant histopathologist. All clinical data of endoscopy procedure and histopathological findings were noted in a pre-designed sheet and data was analysis statistically.

RESULTS

Our study included 60 cases, among them 63.3% were male and 36.7% were female and the age of study population ranged from 22 years to 78 years with the mean of 55.5. The age and sex distribution of the study groups are shown in [Table 1].

Out of 60 cases, 18 (30%) cases were esophageal biopsy and 42 (70%) cases were gastric biopsy. Among 18 esophageal cases- 1 (5.6%) diagnosed as esophageal polyp, 6 (33.3%) diagnosed as esophagitis and 11 (61.1%) diagnosed as esophageal malignancy by endoscopic procedure. After

histopathological examination of the biopsy samples- 15 (83.3%) cases diagnosed as esophageal carcinoma, where 12 (80%) cases were squamous cell carcinoma and 03 (20%) cases were adenocarcinoma. Among the non-neoplastic lesions of esophagus- 1 (5.6%) case diagnosed as inflammatory polyp and 02 (11.1%) cases diagnosed as non-specific esophagitis respectively. Regarding above findings, 61.1% cases were diagnosed as carcinoma endoscopically but the histopathological diagnosis of esophageal carcinoma was 83.3%. [Table 2]

In this study, 42 biopsy samples were taken from the stomach and endoscopist reported 06 (14.1%) cases as gastritis, 10 (23.8%) cases as gastric ulcer, 5 (12.0%) cases as polyp, 5 (12.0%) cases as suspected for malignancy and 16 (38.1%) cases as malignancy. On histopathological examination 22 (52.4%) cases were diagnosed as adenocarcinoma of stomach where 15 (68.2%) were intestinal type and 07 (31.8%) were diffuse type. Other histopathological diagnosis were gastritis 08 (19.0%), non-specific gastric ulcer 08 (19.0%) and hyperplastic polyp 04 (9.6%). [Table 3]

Table 1: Distribution of the study cases (n=60) according to age and sex.

Age	Male	Female	Percentage
21-30	02	02	6.6%
31-40	05	02	11.7%
41-50	09	04	21.7%
51-60	10	07	28.3%
61-70	07	04	18.4%
71-80	05	03	13.3%
Total	38	22	100%

Table 2: Distribution of the esophageal lesions (n=18) according to endoscopic and histopathological diagnoses.

Endoscopic diagnosis		Histopathological diagnosis	
Esophagitis	6 (33.3%)	Squamous cell carcinoma	12 (66.7%)
Polyp	1 (5.6%)	Adenocarcinoma	03 (16.6%)
Carcinoma	11 (61.1%)	Esophagitis	02 (11.1%)
		Inflammatory polyp	01 (5.6%)
Total	18 (100%)	Total	18 (100%)

Table 3: Distribution of the gastric lesions (n=42) according to endoscopic and histopathological diagnoses.

Endoscopic diagnosis		Histopathological diagnosis	
Gastritis	6 (14.1%)	Gastritis	08 (19.0%)
Gastric ulcer	10 (23.8%)	Non-specific ulcer	08 (19.0%)
Polyp	05 (12.0%)	Hyperplastic polyp	04 (9.6%)
Suspected for malignancy	05 (12.0%)	Adenocarcinoma	22 (52.4%)
Carcinoma	16 (38.1%)		
Total	42 (100%)	Total	42 (100%)

DISCUSSION

Malignant tumors of the upper gastrointestinal tract (esophagus and stomach) accounts for 13,300 deaths and approximately 16,000 new cases each year in the UK.^[11] Commonly the patients with upper GIT lesions presents with dyspepsia, pain or difficulty in swallowing, progressive weight loss, hematemesis, chest pain, or vomiting.^[9]

In our study 60 cases of endoscopic biopsy from the upper GIT (esophagus and stomach) was included and the age range of the patients was 22 years to 78 years with the mean age of 55.5. Most of the biopsies were taken from 51 to 70 years of age. In comparison, a study done by Krishnappa Rashmi et al. found that most of the upper GIT disease occurs in the age of the 5th decade.^[12] In this study we also found that most of the biopsies were taken from stomach (70%), this findings also correlate with the studies done by Rashmi K et al., Mustapha SK et al. and Kazi JI et al.^[12,13,14]

Our study showed that, among 18 esophageal biopsies, 15 (83.3%) cases were esophageal carcinoma and rest of the cases includes esophageal ulcer 2 (11.1%) and inflammatory polyp 1 (5.6%). Among the esophageal carcinoma, 12 (80%) cases were squamous cell carcinoma and 03 (20%) cases were adenocarcinoma. While Islam SMJ et al. found that 72.2% esophageal biopsies were malignant and among them 81.2% cases were squamous cell carcinoma.^[15] In contrast Qureshi N A et al. observed that 70.2% cases were adenocarcinoma among all the esophageal carcinoma which show divergence with this

study.^[16] Islam SMJ et al. found that among all the histologically confirmed malignant tumor of esophagus, 12 (66.7%) cases were clinically diagnosed as carcinoma by endoscopy specialist.^[16] This observation is very much correlate with the findings of our study.

In this study among 42 gastric lesion biopsies, 22 (52.4%) cases were adenocarcinoma, 8 (19.0%) cases were gastritis, 8 (19.0%) cases were gastric ulcer and 4 ((9.6%) cases were hyperplastic polyp. Among adenocarcinoma 68.2% cases was intestinal type and 31.7% was diffuse type respectively. Study done by Islam SMJ el al. found 45.2% gastric biopsies were diagnosed as adenocarcinoma, while Rashmi k et al. found 27.94% were adenocarcinoma.^{13,16} In our study 22 (52.4%) gastric carcinoma confirmed by histopathological examination, where endoscopist diagnosed 16 (38.1%) cases as malignant lesion and 05 (12.0%) cases as suspected for malignancy. But study done by Kazi JI et al. observed that, 88.8 % concordance of histopathological diagnosis with endoscopic diagnosis.^[15]

CONCLUSIONS

Esophagus and stomach are the common sites of upper gastrointestinal lesion. Endoscopic examination and biopsy is a convenient procedure for accurate objective assessment of patients with upper gastrointestinal symptoms. Endoscopy followed by histopathological examination play important role for the diagnosis and management of upper GIT lesions. We agree with other authors who have concluded that histopathology is mandatory for accurate diagnosis.

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