Original Article

Pattern of upper GIT lesions diagnosed by histopathological examination of endoscopic biopsies in a rural tertiary hospital

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Abstract

Background: *There are many benign and malignant lesions occur in upper gastrointestinal tract (GIT). Endoscopic biopsy followed by histopathological examination is the gold standard for the diagnosis of these lesions.* ***Objectives:*** *The aim of this study was to determine patterns of benign and malignant lesionsof upper GIT.* ***Materials & Methods:*** *This was a retrospective study carried out in the department of Pathology, Khwaja Yunus Ali Medical College & Hospital (KYAMCH), Sirajgonj from January 2014 to December 2016. All the upper GIT endoscopic biopsy specimens were included in the study.* ***Results:*** *A total of 344 endoscopic biopsies are studied, of which male cases were 234 (68.0%) and female were 110 (32.0%) with M: F of 2.1:1. The age (mean ± sd) of patients was 53.29 ± 15.33 years. Stomach was the most frequent site (77.9%) followed by oesophagus (16.8%) and duodenum (5.3%). The significant diagnostic findings showed malignancies 190(55.2%) followed by inflammation 73 (21.2%) and ulcer 33 (9.6%).* ***Conclusion:*** *For any suspicious lesions in upper GIT, endoscopy followed by histopathological examination should be done for early diagnosis as well as management.*

Keywords: *Endoscopic biopsy, GIT, Histopathology, Malignancy.*

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Introduction

The gastrointestinal (GI) tract is a tube-like structure extending from the oral cavity to anus, consists of oesophagus, stomach, small & large intestine, and anus.[1] Endoscopic biopsy is a common procedure performed in the hospital for many gastrointestinal lesions.[2] The endoscope is a flexible fibre optic instrument used in the diagnosis of gastrointestinal tract (GIT) lesions.[3] It is a simple, safe and well tolerated procedure that directly visualize the lesion and biopsy can be taken for early detection of pathological changes which helps for appropriate management.[4] Upper GIT endoscopy is now the investigation of choice in upper gastrointestinal disorders which often present with dyspepsia.[5] Endoscopic biopsy followed by histopathological assessment is the gold standard for the diagnosis of endoscopically detected lesions.[6,7] There are many pathological lesions occurs in upper GIT like; infectious diseases, inflammatory disorder, neoplasm etc.[8] The endoscopy lead gastric biopsy permits early detection of malignant lesion, to explore H. Pylori, and also detect gastric mucosal lesions like; intestinal metaplasia and dysplasia which may progress to invasive cancer.[9] The prevalence of Helicobacter pylori (H. pylori) infection also common in Asian countries like; in Bangladesh, India,Thailand and Vietnam reported at 92%, 81%, 74%and 75% respectively.[10-13] Helicobacter pylori (H. pylori) causes gastritis, dyspepsia, gastric adenocarcinoma and gastric lymphoma of mucosa-associated lymphoid tissue (MALT).[14] This study was carried out to analyse the spectrum of morphological lesions of upper GIT by histopathological examination of endoscopic biopsy specimens.

Materials and Methods

The study consists of 344 endoscopic biopsy specimens of upper GIT from patients of different age and sex. This was a descriptive study conducted for a period of three years from January 2014 to December 2016 in the department of Pathology, Khwaja Yunus Ali Medical College Hospital, Enayetpur, Sirajgonj. All the consecutive upper GIT endoscopic biopsy specimens received during the period were included in this study.

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After collection, the container labelled with the date, patient's profile etc must accompanied by properly documented request form. Then the specimens were processed for microscopic examinations aftergrossing, proper sectioning, fixation, paraffin blocking, microtome cutting and Haematoxylin & Eosin (H&E) staining. Patient's age, sex and histopathological findings etc. were taken as variables. The data were analysed using software statistical program for social sciences (SPSS).

Results

A total of 344 specimens were analysed. The results are shown in the following tables and figures. The mean age of patients was 53.29 ± 15.33 years shown in Table I.

Table I: Age distribution of the patients (n=344)

Age	Total	%	Mean age (M ± SD)
0-20 yrs	5	1.5%	
21-40 yrs	78	22.7%	
41-60 yrs	153	44.5%	53.29 ± 15.33
61-80 yrs	101	29.4%	
81 and above	7	2.0%	

Among the 344 cases, malewere 234 (68.0%) and female were 110 (32.0%) with M: F of 2.1:1; shown in Figure 1.

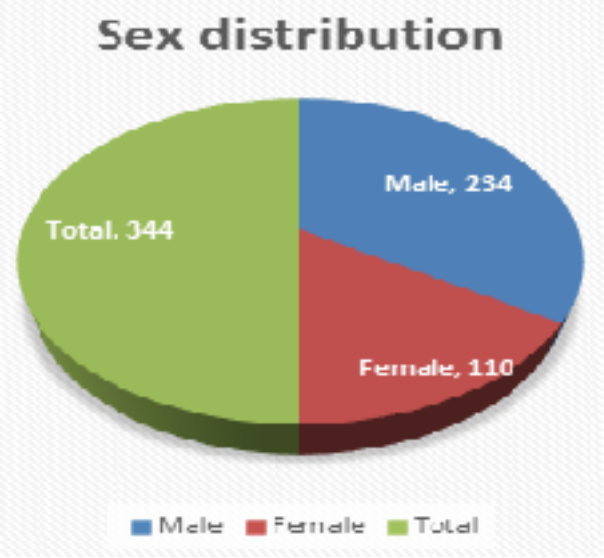

Figure 1: Sex distribution of the patients

The overall diagnostic findings are 190 (55.2%) were malignancy, followed by inflammation 73 (21.2%) and ulcer 33 (9.6%) as shown in Table II.

Table II: Diagnostic findings of upper GIT lesions (n=344)

Diagnosis	Site			Total
	Oesophagus	Stomach	Duodenum	
Inflammation	11	50	12	73 (21.2%)
Ulcer	7	11	15	33 (9.6%)
Polyp	3	13	0	16 (4.7%)
Ch. gastritis with *H.pylori*	0	5	0	5 (1.5%)
Malignancy	32	148	10	190 (55.2%
Non-specific findings	13	8	0	21 (6.1%)
Barrett's oesophagus	5	0	0	5 (1.5%)
Benign	1	0	0	1 (0.3%
	72	235	37	344

The most common age group was 41- 60 years where malignant disease was 92 (48.4%) followed by 61-80 years 60 (31.6%) and 21-40 years 32 (16.8%) as shown in Table III.

Table III: Distribution of malignant diseases in respect of age group (n=190)

Age	Malignant			Total
	Sq. cell ca	Adenocarcinoma	Other ca	
0-20 yrs	0	1	0	1 (0.5%)
21-40 yrs	1	28	3	32 (16.8%)
41-60 yrs	4	85	3	92 (48.4%)
61-80 yrs	10	50	0	60 (31.6%)
81 and above	0	5	0	5 (2.6%)
	15	169	6	190

The most common site of disease involvement was stomach 235 (68.3%) followed by oesophagus 72 (20.9%) and duodenum 37 (10.8%) as shown in Figure 2.

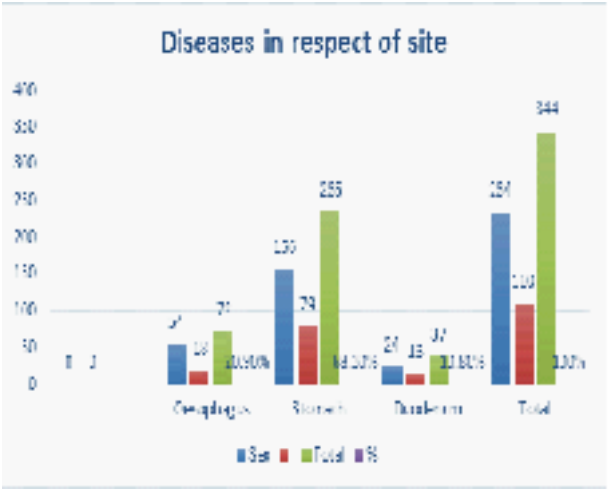

Figure 2: Sites of upper GIT lesions

Among 190 malignancies, the common sites of malignancy were stomach 148 (77.9%) followed by oesophagus 32 (16.8%) and duodenum 10 (5.2%). Adenocarcinoma 169 (88.9%) was the most common histopathological sub type out of 190 malignant cases.

Table IV: Sites of malignant diseases (n=190)

Site	Sq. cell ca	Adenocarcinoma	Other ca	Total
Oesophagus	15	16	1	32 (16.8%)
Stomach	0	143	5	148 (77.9%)
Duodenum	0	10	0	10 (5.3%)
	15	169	6	190

On the basis of sex pattern of 190 cases of malignant tumour distribution, male were 133 (70.0%) and female were 57(30.0%) as shown in Figure 3.

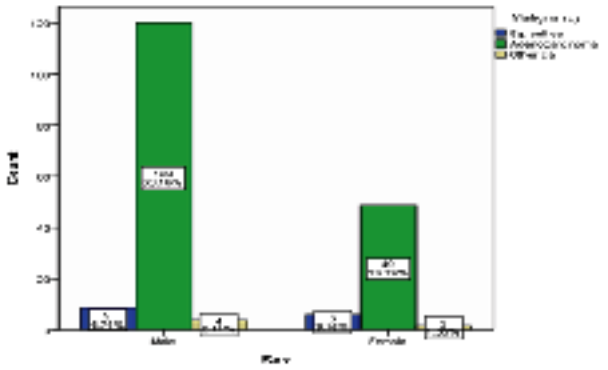

Figure 3: Sex distribution of malignant lesions

Discussion

The indications of endoscopic gastric biopsy are to identify gastritis, ulcers and different malignant conditions.[15] Our study showed that malignant lesion was more common in upper GIT specimens. Among 344 cases, Male: Female ratio was 2.1:1 with the mean age 53.29 ± 15.33 years. Most of the biopsies were from sixth decade. One of the previous studies of Rashmi et al got the predominance in 5th decade.[2] Other reporters also showed male predominance.[16,17] In this study, among 344 cases the commonest (77.9%) site was the stomach followed by oesophagus (16.8%) and duodenum. These findings correlate with other previous studies.[2,5,18,19] In our study of 72 oesophageal biopsies, 32 (44.44%) were malignant, of which 15 (46.87%) were squamous cell carcinoma and 16 (50.0%) were adenocarcinoma. The findings were also correlate with study of Rashmi et al[2], where they got 44% neoplastic lesions in oesophagus. In our study, we got 50.0% adenocarcinoma in the oesophagus where Qureshi et al. found 70.2% adenocarcinoma among the oesophageal cancers.[17] his study of gastric biopsy reveals 63% were malignant out of 235 cases, and all were adenocarcinoma. While Islam et al.[18] and Rashmi et al.[2] found malignancies 45.20% & 27.94% respectively and all were adenocarcinoma. Gastritis was found in 21.27% that was almost similar with Islam et al. 20.55% studies.[18] While other study of Bhatty et al. found gastric carcinoma in only 1.9% cases and gastritis (83.4%) cases.[20]

Among 37 cases of duodenal biopsies, duodenitis were 32.43% and malignancies were 27.02%, while Kazi et al.[19] and Islam et al.[18] reported duodenitis (56.85%) and carcinoma 13.33% respectively. Among all the upper GIT endoscopic biopsies, we found 55.2% malignant lesions with male predominance of 70%, and stomach 77.9% was the commonest site. The findings of Islam et al.[18] study was quite similar to our report. They got 46.36% malignancies with more inmale. While in the report of Rashmi et aloesophagus was the commonest site for malignant lesion with male predominance.[2]

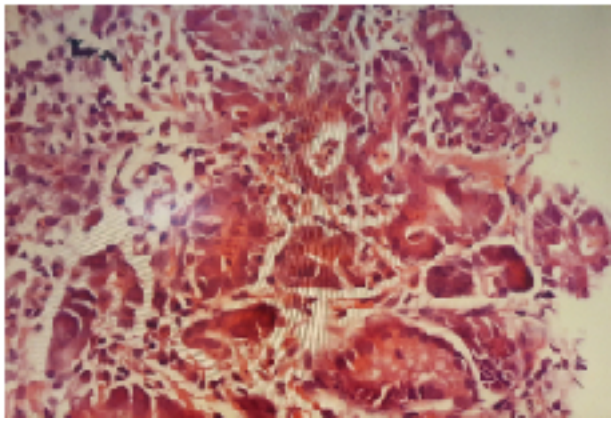

Figure 4: Adenocarcinoma in gastric endoscopic biopsy.

Conclusion

This study revealed that stomach was the common site for inflammatory and neoplastic lesions. In our study, the incidence of gastric carcinoma is high among all upper GIT malignant lesions. So, endoscopy followed by histopathological examination is necessary for early diagnosis and management of upper GIT lesions. Moreover the procedure of diagnosis is cost effective, easily accessible and safe.

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