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Original Research Paper

Histopathology

HISTOPATHOLOGICAL SPECTRUM OF LESIONS IN UPPER GASTROINTESTINAL ENDOSCOPIC BIOPSIES

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ABSTRACT

Introduction: Upper gastrointestinal tract (UGIT) symptoms like dyspepsia, dysphagia, abdominal pain etc. are common causes of discomfort among patients and form the reasons for referral to hospital with a degree of morbidity and mortality. Endoscopic biopsy is a common procedure performed in the hospital for variety of benign and malignant lesions. The present study is conducted to find out the morphological pattern and frequencies of lesions in UGIT endoscopic biopsy specimens. **Materials And Methods:** A retrospective study was conducted on 51 UGIT biopsies performed at our hospital from 2020 to 2022. The histopathology sections from these biopsies were examined and data obtained was analyzed and compared with other similar studies. **Results:** The present study included 51 cases, out of which 15 cases were found to be benign and 29 were malignant. Most common site for UGIT biopsy was stomach, followed by esophagus and duodenum with a male predominance. Commonest malignancy in esophagus and stomach was squamous cell carcinoma and classic adenocarcinoma respectively. The lesions in duodenum were non neoplastic. **Conclusion:** We concluded that the upper GI endoscopic biopsies helps in early detection of mucosal lesions, diagnosis of the carcinoma at early stage and confirmation of clinically suspected cases leading to early clinical management. Hence performing endoscopy alone remains an incomplete investigative modality and should always be combined with biopsies for the diagnosis of upper GI lesions.

KEYWORDS : Endoscopic biopsy, Upper GI tract, Neoplastic lesions.

INTRODUCTION

Upper gastrointestinal tract (GIT) symptoms like dyspepsia, dysphagia, abdominal pain etc. are very common causes of discomfort among patients and form the common reasons for referral to hospital with a degree of morbidity and mortality. Endoscopic biopsy is the common procedure performed in the hospital for variety of benign and malignant lesions.[1]

Upper GI endoscope utilizes a lighted, flexible fiberoptic or video endoscope for visual examination of the upper GIT. Endoscopy, when combined with biopsy is a cost effective procedure when it comes to arriving at a specific diagnosis for a patient with non- specific symptoms[2] and is the current gold standard method.[3]

Early sampling of lesions by endoscopic biopsies and identification of these lesions by a qualified pathologist is a regular and dire part of the diagnostic work up, especially for malignancies and greatly improves the survival rate. [4,5]

Performing endoscopy alone is an incomplete investigative modality for the diagnosis. While performing endoscopy, simultaneously taking biopsy for histopathological evaluation helps in giving an accurate diagnosis.[7,8] Also a thorough knowledge of the spectrum of lesions that can be diagnosed in these specimens is pertinent to make a proper diagnosis for better patient management.[6]

The present study was done to find out the morphological pattern and frequencies of lesions reported in upper gastrointestinal tract endoscopic biopsies.

OBJECTIVES:

The study aims to enlist the spectrum of histopathological lesions in upper GI endoscopy and to correlate the clinical diagnosis with histopathological diagnosis.

MATERIAL AND METHODS:

The present study was a retrospective study conducted in Department of pathology K.V.G medical college and hospital, Sullia over a period of 2 years extending from January 2020-January 2022 in patients presenting with Upper gastrointestinal tract (GIT) symptoms like dyspepsia, dysphagia, abdominal pain and performed Upper GI endoscope along with biopsy. The samples were selected based on universal sampling technique. A brief clinical data was noted form the case records, along with endoscopic findings and histopathological findings. The data obtained data was analyzed accordingly.

Statistical Analysis:

The data was analysed using IBM SPSS version 26 software. Chi square test was used for categorical data and P value of <0.05 was considered statistically significant.

RESULTS:

Among 51upper GI biopsies, majority of the patients were between the age group of 51 and 70 years 28 (55%). The youngest patient was 32 years old and the oldest was 81 years old. In our study 34(66.7%) were males and 17(33.3%) were Females.

Table 1: Clinical Diagnosis

Clinical diagnosis	Number of patients	%
Normal study	2	3.92
Ca esophagus	13	25.49
Ca stomach	23	45.09
Peptic ulcer disease	3	5.88
Gastritis	3	5.88
Gastric ulcers	2	3.92
Duodenitis	1	1.96
Duodenal ulcer	1	1.96
Polyp	2	3.92
Neovascular area near GE Junction	1	1.96
Total	51	100.0

Among 51 biopsies, the most common clinical diagnosis was carcinoma stomach (45.09%) followed by Carcinoma of esophagus (25.49%). Two patients (3.92%) had benign polyp.

3 (5.88%) patients were diagnosed to have peptic ulcer disease.

Table 2: Histopathological Diagnosis

Site	No of biopsies	Non Neoplastic /Neoplastic	No	Diagnosis
Esophagus	19	Non neoplastic	2	Normal histology*
		Benign	3	Dysplasia
		Malignant	14	SCC
Stomach	30	Non neoplastic	14	Cr. Atrophic gastritis (10), Healed peptic ulcer (2), H.Pylori gastritis (2)
		Benign	1	Hyperplastic polyp
		Malignant	15	Adenocarcinoma (9) Signet Ring cell Ca(6)
Duodenum	2	Non neoplastic	1	Non Specific duodenitis
		Benign	1	Hyperplastic polyp
		Malignant	0	--

The biopsy specimens were categorized according to the site of sampling into esophagus, stomach and duodenum which are further grouped into neoplastic and non-neoplastic. Among 51 samples received 19 were from esophagus, 30 from stomach and two from duodenum. The spectrum of histopathological lesions diagnosed are as mentioned in table 2.

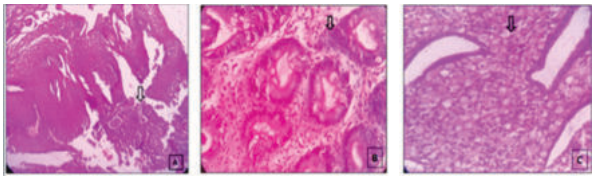

Figure 1. (A)Squamous cell carcinoma oesophagus (H&E, 10x) (B) Adenocarcinoma stomach (H&E, 40x) (C) Signet ring cell carcinoma Stomach (H&E, 40x).

On correlating with clinical diagnosis we found that, 44 (86.27%) out of 51 cases were concordant and seven (13.72%) were discordant. The discordant cases are as described in table 3.

Table 3: Discordant Cases

Clinical diagnosis	Histopathological diagnosis
Ca stomach	Chronic gastritis
? Ca stomach	High grade dysplasia
? Ca stomach	Gastric ulcer with high grade ysplasia
? Ca stomach	Chronic gastritis
? Ca stomach	High grade dysplasia
Peptic ulcer	SCC
? Ca stomach	Benign Hyperplastic polyp

The histopathology sections from all the cases were screened for Helicobacter Pylori organisms using special stain Giemsa. Among 51 cases only two (3.9%) were positive for H. Pylori and 49(96.1%) were negative.

Table 4: Association between Concordance and Discordance of clinical diagnosis with Histopathology Report

Clinical Diagnosis	Histopathology		Total	Chi-square	P –value
	Benign	Malignancy			
Concordance	15	29	44	6.64	0.01 Statistically significant at (p<0.05)
Discordance	6	1	7		
Total	21	30	51		

In Our Study of 51 cases, 44 were concordant among which 15(34.09%) were benign and 29(65.90%) were malignant. 7 cases were discordant, out of which 6(85.71%) were benign and 1(14.28) was malignancy. The chi square test statistics is 6.64 and the p value = 0.01 which is statistically significant at ($p<0.05$).

DISCUSSION:

The present study included 51 upper GI endoscopic biopsies that were received in our department between Jan 2020 and Jan 2022. A variety of upper GI lesions encountered by using endoscopic biopsies were divided as oesophageal, gastric and duodenal lesions. In our study, most common site for upper endoscopic biopsy was stomach, followed by oesophagus and duodenum with a male: female ratio of 2:1 with a mean age 61.3 years. Most of the biopsies were from sixth decade.Similar findings were seen in studies by Froehlich et al[13], Shennak et al[16] Keerthana jonnalagadda et al[10] and Jaynul S M et al[3]. While Rashmi K et al[11] got predominance of 5th decade.

Oesophageal Lesions

In the present study there were 19 oesophageal biopsies out of which 3 were benign and 14 were malignant and 2 biopsies showed no pathology. All the malignant lesions were reported to be squamous cell carcinomas (SCC). Four similar studies conducted by Krishnappa et al[11], Javali et al[19],Somani et al[17] and Preeti Rajendra Sahu et al[8] showed that SCC was the commonest malignant lesion in oesophagus.

Gastric Lesions

In our study there were 30 gastric biopsies out of which 15 were non-neoplastic and 15 were neoplastic. The most common non-neoplastic lesion was chronic atrophic gastritis (10 cases). Under neoplastic lesions, adenocarcinoma of stomach was the most common, of which 9 were classic type and 6 were signet cell variant of adenocarcinoma.

According to few other studies by Krishnappa et al[11], Thapa et al[14],Javali et al[19], Somani et al[17]and Bhatt N et al[20] results are similar to our findings of non-neoplastic lesions.

Adenocarcinoma of stomach was also the most common malignant lesion found in Krishnappa et al[11]. Thapa et al[14]. Somani et al[17] and Nazrin et al[20].

Duodenal Lesions

In our study there were 2 duodenal biopsies of which one was duodenitis and the other was brunners gland hyperplasia. There were no cases of malignancy. Similarly in studies by Shanmugasamy K et al[21] and, Anoja Aparajita et al[22] inflammatory lesions were more common than neoplastic lesions.

CONCLUSION

Thus we conclude that the upper GI endoscopic biopsies help in early detection of mucosal lesions, diagnosis of the carcinoma at early stage and confirmation of clinically suspected cases leading to early clinical management. Performing endoscopy alone remains an incomplete investigative modality and should always be combined with biopsies for the diagnosis of upper GI lesions.

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