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Research Paper

Interpretation of upper gastrointestinal tract endoscopic biopsies –A retrospective study.

Medical Science

KEYWORDS : Endoscopic, Biopsy, Histopathology , Upper GIT.

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ABSTRACT

CONTEXT: Upper gastrointestinal tract endoscopy is very useful tool to diagnose variety of lesions of oesophagus, stomach and duodenum.

AIMS & OBJECTIVES: To study the histopathological spectrum of lesions of the upper gastrointestinal tract by the examination of endoscopic biopsies.

MATERIAL AND METHODS: Present study included 100 endoscopic biopsies of which 41 were oesophageal, 48 were stomach, 4 were from oesophago-gastric junction and 7 were from duodenum.

RESULTS: The study included 100 cases out of which 61 were males and 39 were females[(M:F (1.5:1)].Age of the patients varied from 15 to 82 years. Among 100 biopsies 56 were neoplastic , 41 were non neoplastic lesions, 2 were normal and 1 was inconclusive for the diagnosis. Study showed 56 cases were neoplastic out of which 35 neoplastic lesions were found in oesophagus , 18 were found in stomach , 3 lesions were from oesophago-gastric junction. Most of non-neoplastic lesions were found from stomach.

CONCLUSION: The study highlights early detection of malignant lesions which remarkably improved the prognosis of the patients

INTRODUCTION

Upper gastrointestinal tract disorders are one of the most commonly encountered problems in clinical practise. The definitive diagnosis of upper GI disorders rest on histopathological confirmation and is one of the basis for planning proper treatment.[1]Upper gastrointestinal lesions include those arising from the esophagus, stomach, and first and second part of duodenum. Endoscopy guided biopsy is useful for visualization of neoplastic like benign or malignant and nonneoplastic like esophagitis, barrett's esophagus, peptic ulcer, gastritis, menetrier's disease etc. Malignancies of the oesophagus and stomach are detected late as the patients are either asymptomatic or present with mild non-specific symptoms in the early stages of disease. Thus early detection of these lesions become rather important. The technical advances that made fibroptic instrument possible began in 1927 by Baird.[2]Modern gastroscopy began in 1936 with the introduction by Wolf.[3]The modern era of gastrointestinal endoscopy began in 1957 when Basil developed first fibroptic gastroscope.[4] The chief value is an aid to the endoscopist in detecting the often subtle surface feactures of early cancer.

AIMS AND OBJECTIVES:(1)To study the spectrum of lesions of the upper gastrointestinal tract by the examination of endoscopic biopsies.(2)To find the associated/predisposing lesions wherever possible, such as Barrett's esophagus, Helicobacter pylori infection and intestinal metaplasia.

MATERIALS AND METHODS: The present study included endoscopic biopsies of upper gastrointestinal tract from patients attending the department of gastroenterology at sheth V S Hospital & NHL Municipal Medical College, Ahmedabad in year 2013-2014 for period of 2 years. Brief clinical data were noted from the case records, which included the age and sex of the patients and endoscopic findings and diagnosis.The endoscopic biopsy specimens thus obtained were fixed in bouins fixative. Before processing, the samples were stained with eosin for their better and complete visualization and wrapped in a tissue paper to prevent dispersion and actual loss of tissue.These sections were stained routinely with Hematoxylin and Eosin. In cases of all gastric carcinomas, additional sections were stained with toluene blue to look for the presence of Helicobacter pylori.

RESULTS: In the present study, total 100 upper gastrointestinal biopsy taken at gastroenterology department of V. S. General Hospital, Ahmedabad are studied.

TABLE 1
DISTRIBUTION OF ENDOSCOPIC BIOPSIES

SITE	NUMBER (%)
Esophagus	41 (41%)
Esophago-gastric junction	4 (4%)
Stomach	48 (48%)
Duodenum	7 (7%)
TOTAL	100 (100%)

The study included 100 biopsies of which 41 (41%) were esophageal, 48 (48%) were stomach, 4 (4%) were from esophago-gastric junction and 7 (7%) were from duodenum (Table 1).

TABLE 2
HISTOPATHOLOGICAL DIAGNOSIS OF ENDOSCOPIC BIOPSIES

HP DIAGNOSIS		NO OF CASES (%)
NEOPLASTIC LESIONS	SCC	29
	Adeno Ca (including Signet ring type)	22
	SmCC	1
	Gastric Lymphoma	1
	Dysplasia	3
	TOTAL	56 (56%)

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NON NEOPLASTIC LESIONS	Esophagitis		6
	BenignUlcer	Stomach	6
		Duodenum	7
	Chronic Gastritis		15
	Acute Gastritis		1
	Fungal Gastritis		1
	Hyperplastic Polyp		4
	Hyperplasia -Squamous type		1
NORMAL			2
INCONCLUSIVE			1
TOTAL			100

SCC-Squamous cell carcinoma, Adeno Ca-Adenocarcinoma, SmCC-Small cell carcinoma

TABLE 3
SITE DISTRIBUTION OF LESIONS

SITE	NEOPLASTIC LESIONS	NON NEOPLASTIC LESIONS	INCONCLUSIVE	NORMAL	TOTAL
Esophagus	35 (62.5%)	6	0	0	41
EGJ	3 (5.36%)	1	0	0	4
Stomach	18 (32.14%)	27	1	2	48
Duodenum	0	7	0	0	7
TOTAL (%)	56 (100%)	41	1	2	100

Most of nonneoplastic lesions were found from stomach and neoplastic lesions where present in esophagus.

TABLE 4
ENDOSCOPIC PRESENTATION AND HISTOPATHOLOGICAL DIAGNOSIS OF ESOPHAGEAL (& EGJ) BIOPSIES

Endoscopic presentation	NEOPLASTIC LESIONS				IEN/ dysplasia	NON NEOPLAST-IC LESIONS	Total
	SCC	Adeno Ca (inc Signet ring type)	Others	Total No. (%)			
Polypoidal	20	0	0	20 (57.14)	2	1	23
Ulcerative	7	3	1	11 (31.43)	1	3	15
Infiltrative	1	3	0	4 (11.43)	0	0	4
Atrophic	0	0	0	0	0	3	3
Total	28	6	1	35 (100%)	3	7	45

The commonest esophageal malignancy encountered was squamous cell carcinoma (80%) followed by adenocarcinoma (17%).

TABLE 5
ENDOSCOPIC PRESENTATION AND HISTOPATHOLOGICAL DIAGNOSIS OF GASTRIC & DUODENAL BIOPSIES

Endoscopic presentation	NEOPLASTIC LESIONS			NON NEOPL-ASTIC LESIONS	Normal Biopsy	Incon-clusive	Total
	Adeno Ca (inc Signet ring type)	Others	Total (%)				
Polypoidal	2	1	3 (16.67%)	4	0	0	7
Ulcerative	6	1	7 (38.89%)	23	0	1	31
Infiltrative	8	0	8 (44.44%)	0	0	0	8
Atrophic	0	0	0	7	0	0	7
Irregular Mucosa	0	0	0	0	2	0	2
TOTAL	16	2	18 (100%)	34	2	1	55

Out of 18 neoplastic lesions, most common were adenocarcinoma and among non neoplastic lesions most of the cases were of chronic gastritis and benign ulcer.

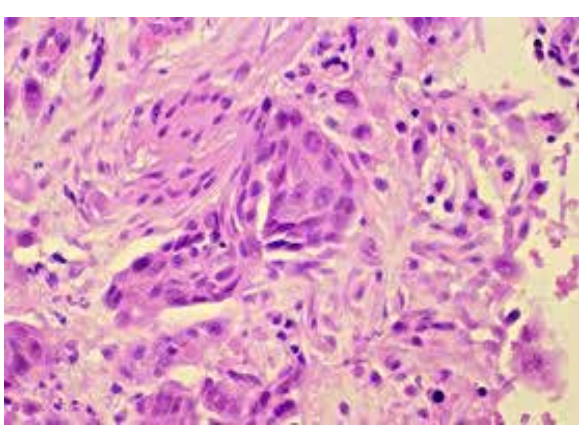

Fig 1. Moderately differentiated SCC- esophagus (H & E, 400x)

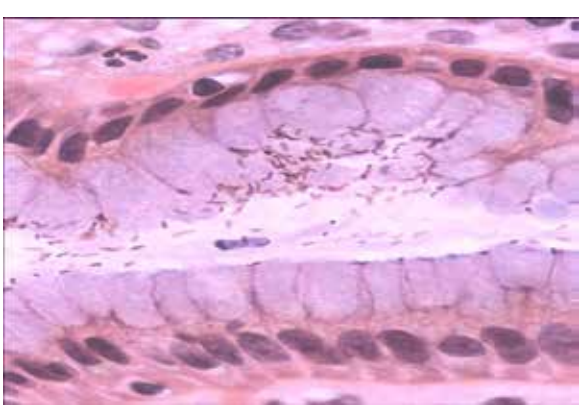

Fig 2. Stomach mucosa showing H. pylori. (H & E, 1000x)

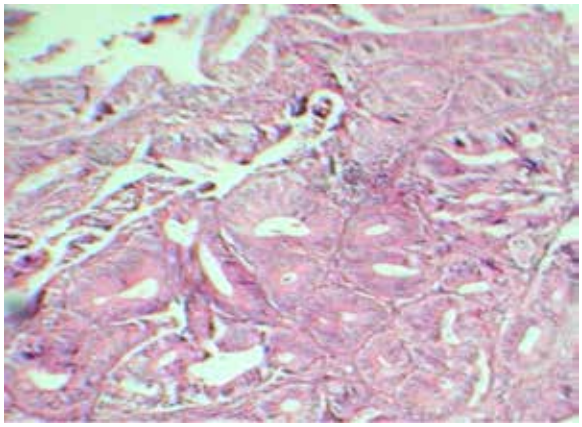

Fig 3 Moderately differentiated adenocarcinoma- Stomach showing irregular atypical glands and cords of pleomorphic cells (H & E, 100x)

DISCUSSION

Endoscopy with endoscopic biopsy is currently the major method of diagnosis of Gastrointestinal (GI) lesions. The biopsies that were included in the study comprised of 41 (41%) esophageal biopsies and 48 (48%) gastric biopsies. The remaining accounted for 4 (4%) from the esophagogastric junction and 7 (7%) from the duodenum Age of the patients varied from 15 to 82 years.Peak incidence of esophageal cancer occurred between the 5th to 7th decades.The observations were similar in studies carried out by Gauri-Bazaz-Malik[5] Peak incidence of gastric cancer occurred in the 5th and 7th decade. The observations were similar to those seen in studies carried out by Gauri-Bazaz-Malik[6] which showed a peak (56.44%)in the 5th and 6th decades. However,Fuchs CS and other studies carried out report a peak in the 7th decade[7].Male to female ratio in neoplastic lesion was 1.2:1 and in non neopastic lesion it was 2.1:1. Similar observations were noted in other studies. Esophageal SCCs are most often well differentiated or moderately differentiated[8] and moderately differentiated SCC accounts for 60% of all cases of SCC.[9].In the present study Barrett's esophagus was detected in one out of the five cases of adenocarcinoma of the esophagus. Barrett's esophagus increases the risk of esophageal adenocarcinoma approximately 30 times as compared to the general population.[10] It was seen that changes in DNA ploidy, increased proliferation and alteration in p53 gene were few of the molecular events involved in the neoplastic transformation of barrets esophagus and adenocarcinoma.[11].The Gastric adenocarcinoma has various pre-disposing factors like H. pylori infection, chronic atrophic gastritis, intestinal metaplasia, gastric polyps. Similar studies on gastric lymphomas isolated H pylori in 92 -98% of gastric lymphoma. However they noted H pylori infection is less common in high grade lymphoma(25-38%). It was also seen that eradication of the organism in patients with MALT lymphoma often leads to regression of the tumour in 75% of cases.[12].

CONCLUSION

Combination of methods like endoscopy with biopsy of upper gastrointestinal tract provides powerful diagnostic tool for early detection of malignancies and better patient management.

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