

Original Research

Assessment of histomorphological spectrum of upper gastrointestinal lesions

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ABSTRACT:

Background: The diseases of upper gastrointestinal tract are highly prevalent in population and patients present with varied symptoms such as dysphagia, pain while eating, nausea, vomiting, dyspepsia, & loss of weight. The present study was conducted to histomorphological spectrum of upper gastrointestinal lesions. **Materials & Methods:** 58 upper GIT endoscopic biopsies of both genders were recruited. All the biopsy samples were fixed in 10% buffered formalin, followed by conventional tissue processing, cut at 3-4-micron thick sections, stained with Haematoxylin and Eosin. Periodic Acid Schiff (PAS) stain and Acid-Fast stains were performed. **Results:** Out of 58 cases, 32 were of males and 26 were of females. There were 12 neoplastic and 46 non- neoplastic lesions. Maximum lesions were seen in duodenum (34) followed by stomach (18) and esophagus (6). There was correlation of endoscopic and histopathological findings of oesophageal lesions ($P < 0.05$). **Conclusion:** Upper gastro- intestinal endoscopy is an effective investigative modality to assess patients with upper gastrointestinal symptoms, and to obtain representative biopsies.

Key words: endoscopy, gastro- intestinal tract, Biopsy

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INTRODUCTION

The upper gastrointestinal (UGI) tract extends from oesophagus to duodenum (second part), and with the advent of endoscopy of upper digestive tract the diagnostic yield has been increased over the years.¹ The diseases of upper gastrointestinal tract are highly prevalent in population and patients present with varied symptoms such as dysphagia, pain while eating, nausea, vomiting, dyspepsia, & loss of weight. The disease burden is known to affect the quality of life, which has effect on health care cost.² Minimally invasive procedures such as gastroduodenoscopy and colonoscopy are used to obtain biopsies, which are subjected to histological and immunohistochemical examination. This method is the gold standard for diagnosis of GI lesions.³ Histopathology provides crucial information from the biopsy specimen for definitive diagnosis. However, histopathological study detects mucosal lesions at an early stage especially various metaplasia and dysplasia, which can help to prevent further progression to invasive cancer or to treat it at an early

stage, thus; increasing the chances of cure.⁴ India is harbouring 0.31% of cancerous conditions worldwide, where colorectal carcinomas account for 4th most common cancer affecting 0.03% population of the world while gastric cancers lie 8th in rank affecting 0.01% of the world population. Though endoscopic biopsies are invasive procedures, it is considered to be the gold standard for determining UGT lesions. It also helps the clinician and pathologist to correlate with the clinical data.⁵ The present study was conducted to histomorphological spectrum of upper gastrointestinal lesions.

MATERIALS & METHODS

The present study comprised of 58 upper GIT endoscopic biopsies of both genders. Information such as age, immune status, duration of symptoms and treatment etc. was recorded. All the biopsy samples were fixed in 10% buffered formalin, followed by conventional tissue processing, cut at 3-4-micron thick sections, stained with Haematoxylin and Eosin. Periodic Acid Schiff (PAS) stain and

Acid-Fast stains were performed. Data thus obtained were subjected to statistical analysis. P value < 0.05

was considered significant.

RESULTS

Table I Distribution of patients

Total- 58		
Gender	Males	Females
Number	32	20

Table I shows that out of 58 cases, 32 were of males and 26 were of females.

Table II Distribution of biopsies

Lesions	Esophagus	Stomach	Duodenum	Total
Neoplastic	2	0	10	12
Non- neoplastic	4	18	24	46
Total	6	18	34	58

Table II shows that there were 12 neoplastic and 46 non- neoplastic lesions. Maximum lesions were seen in duodenum (34) followed by stomach (18) and esophagus (6).

Table III Correlation of endoscopic and histopathological findings of oesophageal lesions

Endoscopic findings	Histopathological Findings			Total
	Esophagitis	Dysplasia	Carcinoma	
Oedema	2	0	0	2
Erythema	1	1	0	2
ulcer	1	0	0	1
Ultero-proliferative lesion	0	0	1	1

Table III shows that there was correlation of endoscopic and histopathological findings of oesophageal lesions (P< 0.05).

DISCUSSION

The upper gastrointestinal tract disorders are the common complaints in the clinical practice and has got high degree of mortality and morbidity. The upper gastrointestinal tract comprises of oral cavity, esophagus, stomach and duodenum. Several lesions can affect the UGT which are broadly classified into congenital anomalies, infections, inflammation, benign and malignant neoplasms.⁶ To visualize and to get the specimen from the gastrointestinal tract a flexible, fiberoptic endoscopy is used. Endoscopic biopsy in combination with histopathological examination plays an important role in the early diagnosis of esophago-gastroduodenal lesions.⁷ The present study was conducted to histomorphological spectrum of upper gastrointestinal lesions.

We found that out of 58 cases, 32 were of males and 26 were of females. Rosy Khandelia et al⁸ also showed similar findings in that it was observed out of 115 upper gastrointestinal biopsies, 48 (41.74%) were from esophagus in origin and the most common non neoplastic lesion was Chronic nonspecific esophagitis. The study also confirmed that the squamous cell carcinoma of esophagus was the common neoplastic lesion.

We found that there were 12 neoplastic and 46 non-neoplastic lesions. Maximum lesions were seen in duodenum (34) followed by stomach (18) and esophagus (6). Kothari et al⁹ in their study a total of 200 endoscopic biopsies, 50 from oesophagus, 50 from stomach and 100 from duodenum received in

the department of pathology were processed according to standard protocol and then reported by pathologist. The spectrum of histopathological lesions, whether inflammatory, non – neoplastic or neoplastic was evaluated along with the overall frequency, age and sex distribution of various upper gastrointestinal lesions. Out of 200 cases of endoscopic biopsies received, 114 were males and 86 were females (M:F- 1.3:1). Majority were non-neoplastic lesions comprising of 153 (76.5%) cases. Out of 38(19%) malignant cases, oesophagus was the most common site comprising 78.9% and duodenum was the least common site comprising 10.5% of total malignancy. In duodenum 25% cases of celiac disease were also identified. Conclusion: In this prospective study, the commonest site for upper GI endoscopic biopsy was from the duodenum (50%). Overall Inflammatory lesions were more common (76.5%), the predominant sites being stomach (88%) and duodenum (68%). Most common site for malignancy was oesophagus, histological type was Squamous Cell Carcinoma predominantly. Endoscopic biopsy serves as an effective tool for the diagnosis and management of upper gastrointestinal lesions.

We found that there was correlation of endoscopic and histopathological findings of oesophageal lesions (P< 0.05). Krishnappa et al¹⁰ determined the spectrum of histopathological lesions of upper gastrointestinal tract. To establish endoscopic biopsies as an effective tool in the proper diagnosis and management of

various upper gastrointestinal tract lesions. Of the total 25 cases of esophageal biopsies, 56% constituted non neoplastic lesions and 44% had neoplastic pathology. The most common malignancy was SCC (squamous cell carcinoma) occurred most commonly (73%) in the middle one third of the esophagus. In stomach biopsies, 41 (60%) had non neoplastic pathology and 27 patients (40%) had neoplastic pathology. The most common malignancy was adenocarcinoma.

Afzal et al¹¹ found a high frequency of gastric disease in males with a male to female ratio of 6:1 and an age range of 09 years to 85 years were observed. The clinical presentations mostly seen were abdominal pain, dyspepsia, vomiting, diarrhoea, decreased appetite and weight loss. On endoscopy the most frequently suspected lesions were gastritis 662(84.12%), stomach growth 45(5.72%), gastric ulcers 10(1.27%), while 70(8.89%) cases showed unremarkable mucosa. The histopathology revealed chronic non-specific gastritis 676(85.89%) followed by malignant tumours 45(5.72%), benign neoplasms 3(0.38%) and gastric ulcer 10(1.27%). A number of biopsies 53(6.73%) were unremarkable histologically.

CONCLUSION

Authors found that upper gastro- intestinal endoscopy is an effective investigative modality to assess patients with upper gastrointestinal symptoms, and to obtain representative biopsies.

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