

# Endoscopic and Histologic Diagnosis of Upper Gastrointestinal Lesions, Experience in a Port City of Bangladesh.

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## Abstract

**Background:** For upper gastrointestinal tract disorders endoscopic biopsy is common procedure performed in the hospital for a variety of benign and malignant lesions. Endoscopy is incomplete without biopsy and histopathology is the gold standard for the diagnosis of endoscopically detected lesions. **Methods:** A prospective study was carried out at a private histopathology diagnostic center at Chittagong from October 2012 to September 2013. All the upper GIT endoscopic biopsy samples received during the period were included in the study. The endoscopy was done by a skilled endoscopist and his detail endoscopic findings were noted. After conventional tissue processing H&E stained slides are examined under light microscope by three competent histopathologists. **Results:** Among total 110 upper GIT endoscopic biopsy samples 22 (20%) were oesophageal, 73 (66.36%) gastric and 15 (13.64%) duodenal biopsies. Among oesophageal biopsies 18 (81.82%) were histologically neoplastic of which 13 (81.25%) were SCC and 03 (18.75%) adenocarcinoma. Rest 02 (9.09%) were leiomyoma. Among all the oesophageal carcinomas, 10 (62.5%) were provisionally diagnosed as carcinoma by endoscopists. Among 73 endoscopic biopsies from stomach, the mean age was 54.63 yrs. On histopathology among 73 patients, adenocarcinoma-33 (45.20%), gastric ulcer-11 (15.07%), gastritis-15 (20.55%) and hyperplastic polyp-14 (19.18%). Among 33 adenocarcinoma of stomach 23 (69.69%) were clinically diagnosed or suspected as carcinoma by the endoscopist. Among 15 duodenal biopsies 11 (73.33%) were diagnosed histologically as hyperplastic polyp, 02 (13.33%) as adenocarcinoma, 02 (13.33%) as ulcer. Among 110 UGIT biopsies total 51 (46.36%) were malignant. Mean age 59.49 yrs ranges from 22 Yrs to 82 Yrs. M:F ratio is 1.4:1. Among all 33 (64.7%) were gastric carcinoma, 16 (31.37%) oesophageal carcinoma and 02 (3.92%) duodenal carcinoma. Among 51, 35 (68.63%) were clinically diagnosed or suspected as carcinoma by endoscopist. No clinical information was available in 03 (5.88%) cases and rest 13 (25.49%) cases were clinically diagnosed as non neoplastic conditions by the endoscopist. **Conclusion:** Endoscopy followed by histopathological examination play important role for diagnosis and management of UGIT lesions.

**Key words:** Upper Gastrointestinal lesions; Endoscopic Biopsy; Histopathology.

## INTRODUCTION

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<sup>1</sup>. Upper gastrointestinal endoscopy is regarded as the investigation of choice in patients with upper gastrointestinal disorders which often present with dyspepsia<sup>2</sup>. Endoscopic examination and biopsy is a convenient procedure for accurate objective assessment of patients with symptoms of gastrointestinal tract. Endoscopy is incomplete without biopsy and histopathology is the gold standard for the diagnosis of endoscopically detected lesions<sup>3</sup>.



**Table 2 :** Distribution of Gastric Lesions (n=73)

Endoscopic Diagnosis (n=73)		Histologic Diagnosis (n=73)	
Gastritis	13 (17.81%)	Gastritis	15 (20.55%)
Gastric Ulcer	16 (21.92%)	Gastric Ulcer	11 (15.07%)
Polyp	13 (17.81%)	Hyperplastic polyp	14 (19.18%)
Ulcer/?Carcinoma	08 (10.96%)	Adenocarcinoma	33 (45.20%)
Carcinoma	20 (27.39%)		
Growth	02 (2.73%)		
No Impression	1 (1.37%)		
Total	73 (100%)	Total	73 (100%)

While on histopathology 33 (45.20%) were diagnosed as adenocarcinoma of different grades. Other diagnoses are gastric ulcer- 11 (15.07%), gastritis of different grades- 15 (20.55%) and hyperplastic polyp- 14 (19.18%). Among 20 clinically diagnosed carcinoma, 17 (85%) were histologically confirmed as malignant while among 08 clinically suspected ulcer/?cacinoma cases 06 (75%) were histologically confirmed as malignant. In contrast among 33 histologically confirmed adenocarcinoma cases 23 (69.69%) were clinically diagnosed or suspected as carcinoma by the endoscopist. The mean age of gastric malignant tumour was 60.12 Yrs.

Among 15 duodenal biopsies the mean age was 49.47 yrs. Among all 09 (60%) were clinically diagnosed by endoscopist as polyp, 02 (13.33%) as malignant, 02 (13.33%) as ulcer, 01 (6.66%) as growth and 01 (6.66%) as Brun's gland (Table 3).

**Table 3 :** Distribution of Duodenal Lesions

Endoscopic Diagnosis (n=15)		Histologic Diagnosis (n=15)	
Hyperplastic Polyp	09 (60%)	Hyperplastic polyp	11 (73.33%)
Ulcer	02 (13.33%)	Ulcer	02 (13.33%)
Brun's Gland	01 (6.66%)	Adenocarcinoma	02 (13.33%)
Growth	01 (6.66%)		
Malignant	02 (13.33%)		
Total	15 (100%)	Total	15 (100%)

On histopathological examination all clinically suspected malignant cases were confirmed as adenocarcinoma and all clinically detected duodenal ulcers were also confirmed histologically as benign ulcer. Rest 11 (73.33%) were diagnosed histologically as hyperplastic polyp. The mean age of duodenal malignant tumour was 72.5 Yrs.

Among 110 upper gastrointestinal biopsies 51 (46.36%) were malignant. Mean age of cancer affected persons was 59.49 yrs with minimum 22 yrs to maximum 82 Yrs. Male and female ratio is 1.4:1. Among all 33 (64.7%) were gastric carcinoma, 16 (31.37%) were oesophageal carcinoma and 02 (3.92%) duodenal carcinoma. Among 51, 35 (68.63%) were clinically diagnosed or suspected as carcinoma by endoscopist. No clinical information was found in 03 (5.88%) cases and rest 13 (25.49%) cases were diagnosed as non neoplastic conditions by the endoscopist.

## DISCUSSION

Good clinical and endoscopy information is a fundamental part of "adequacy" and this strongly affects how a biopsy should be read. However, the precise diagnosis becomes more certain on histopathological examination. The most common indications for gastric biopsy are; to detect various types of gastritis along with evidence of *Helicobacter pylori* status, gastric ulcers and different tumours<sup>10</sup>.

Malignant tumours of the upper gastrointestinal tract (oesophagus and stomach) account for 13,300 deaths and approximately 16,600 new cases each year in the UK<sup>11</sup>. These tumours usually have a long natural history and may present at a fairly advanced stage. Nevertheless, patients with these tumours exhibit important alarm symptoms, for example, dysphagia, dyspepsia, chronic gastrointestinal bleeding, progressive unintentional weight loss, progressive difficulty in swallowing, persistent vomiting, iron deficiency anaemia or epigastric mass that warrant further clinical investigations.

In our study among 110 upper GIT endoscopic biopsies Male:Female ratio was 1.12:1 with the mean age 54.46 yrs. Most of the biopsies were from sixth decade. While Krishnappa Rashmi et al<sup>1</sup> got the predominance of upper GIT disease in 5<sup>th</sup> decade. Other workers also got male predominance<sup>12-13</sup>. Among 110 cases stomach was the commonest (66.36%) site of UGIT endoscopic biopsy followed by oesophagus and duodenum. The findings correlate with other findings<sup>1-2,14</sup>.

In our study among 22 oesophageal biopsies, 18 (81.82%) were neoplastic lesions which includes 16 (72.2%) malignant and 2 (9.09%) benign. Among the malignant tumours 13 (81.25%) were squamous cell carcinoma and 03 (18.75%) were adenocarcinoma. While Rashmi K et al in their study got predominantly non neoplastic oesophagitis and only 44% were neoplastic lesions, though all of their neoplastic oesophageal lesions were malignant lesions and those all were squamous cell carcinoma<sup>1</sup>. In our cases we got 18.75% adenocarcinoma in oesophagus. In contrast Qureshi N A et al found 70.2% adenocarcinoma among all the oesophageal cancers while squamous cell carcinomas were 23.1%, signet cell carcinoma 1.35%, anaplastic cancers 2.70% and undifferentiated tumours with neuro-endocrine differentiation (2.70%)<sup>13</sup>. In our study among all the histologically confirmed malignant tumour of oesophagus, 10 (62.5%) were clinically diagnosed as carcinoma by endoscopists. While Kazi J I et al got 100% correlation in oesophageal biopsy with histologic findings in oesophageal malignancy<sup>14</sup>.

In our study among 73 endoscopic gastric biopsies 45.20% were diagnosed as malignant and all were adenocarcinoma of different grades. While Rashmi K et al found 27.94% malignant lesions among 68 gastric endoscopic biopsies and all were adenocarcinoma; Bhatti et al got gastric carcinoma in only 1.9% cases of a large series of 1076 upper GIT endoscopy biopsies<sup>1,15</sup>. Their predominant cases were gastritis (83.4%). In our case we got gastritis in only 20.55% of all gastric endoscopy biopsies. In our study among the histologically confirmed adenocarcinoma cases had concordance of 69.69% with clinical diagnoses by endoscopist while Kazi JI et al found 88.8% concordance for gastric carcinoma<sup>14</sup>.

Mean age of gastric carcinoma was 60.12 Yrs. While Islam SMJ found mean age 43.14 Yrs among 625 gastric adenocarcinoma cases<sup>16</sup>. In our study duodenal hyperplastic polyps were the commonest pathology among the duodenal biopsies both endoscopically as well as histopathologically. Duodenal malignancies were found in 13.33% cases by both endoscopist and histopathologist while Kazi JI et al found duodenitis as the commonest pathology (56.85%)<sup>14</sup>. They have not got any duodenal malignancy among 146 duodenal biopsies.

In our study among all the upper GIT endoscopic biopsies, 46.36% were malignant. Mean age of the malignant cases was 59.49 yrs and males were affected more. The most commonly affected site of malignant lesions was stomach (64.7%). Rashmi K et al also got highest incidence in 4<sup>th</sup> and 5<sup>th</sup> decade with male predominance<sup>1</sup>. But in their study, oesophagus was the commonest site for malignant lesion.

Regarding concordance with endoscopic diagnoses, in our study 68.63% of histologically confirmed malignant cases were clinically diagnosed or suspected by the endoscopist while Kazi JI et al found 88.8% to 100% concordance of endoscopists and histopathologists depending on site of the malignant lesion.<sup>14</sup>

## CONCLUSION

Common site of UGIT lesions is stomach. In Chittagong region incidence of gastric carcinoma is more among UGIT malignancy. Endoscopy followed by histopathological examination play important role for diagnosis and management of UGIT lesions.

## DISCLOSURE

All the authors declared no competing interest.

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