A STUDY ON HISTOPATHOLOGICAL SPECTRUM OF LESIONS OF GASTROINTESTINAL TRACT ENDOSCOPIC BIOPSIES

INTRODUCTION
Disorders of gastrointestinal tract are commonly encountered problems in the clinical practice with a high degree of morbidity and mortality. For a variety of diseases both benign and malignant, endoscopic biopsy is a common procedure performed in the hospitals. Now-a-days an endoscopy or colonoscopy without histopathological examination of biopsies has become an incomplete procedure.

Biopsies from oesophagus, stomach and duodenum upto the second part constitute upper gastrointestinal endoscopic biopsies and lower gastrointestinal biopsies are taken from lower GIT beyond second part of duodenum.

Various non-neoplastic and neoplastic lesions can occur in GIT. Common entities are infection, inflammation, vascular disorder and toxic and physical injury etc. Polyps seen in GIT are of hyperplastic, adenomatous, inflammatory and carcinomatous type.

Endoscopic biopsies are used to diagnose various lesions and apart from that, are also used to monitor the course of disease process, detect complication, extent of the disease and response to the therapy. They are considered gold standard investigation for Gastrointestinal lesions.

AIMS AND OBJECTIVES
To determine the spectrum of histopathological lesions of gastrointestinal tract.

MATERIALS AND METHODS
This is a retrospective study done in Silchar Medical College and hospital, Assam, India. It was carried out during a period of one year from September 2018 to August 2019. A total of 91 cases (Upper and Lower gastrointestinal biopsies) were received in the histopathology section.

Complete clinical history was collected for histopathological correlation.

Inclusion Criteria:
1. All lesions of upper and lower GIT
2. All age groups and both sexes

Exclusion Criteria:
1. Resection specimens
2. Lesion of mouth and pharynx
3. Lesion of anal canal and rectum
4. Lesion of liver and gall bladder

RESULTS:
Out of total 91 endoscopic biopsies, the most commonly encountered were gastric biopsies (30 cases) followed by colon (25). Chronic non-specific gastritis was the most common lesion reported in stomach. Esophagus was found to be the most common site for malignancy.

The biopsies were received as tiny tissue fragments. Fixation was done in 10% formalin, followed by tissue processing and embedding. Sections were stained with Hematoxylin and Eosin. Analysis of spectrum of lesion in GIT was done.

In the present study, out of 91 cases, 54 (59%) were males and 37 (41%) were females with male to female ratio of 1.4:1 (Figure 1). The mean age of presentation was 47 years. The youngest patient was 8 year male with chronic non-specific gastritis and the oldest patient was 71 year male with adenocarcinoma of colon.

Out of all cases, gastric biopsies constituted higher number of 36 (40%), followed by colon (27%), oesophagus (22%) and small bowel (11%). Out of 20 cases of esophageal biopsies, six cases were non-neoplastic and 14 cases were neoplastic in nature.

Out of 30 cases of gastric biopsies, the most common lesion was found to be chronic non specific gastritis (68%), followed by malignancy.

Among eight cases of duodenal biopsies received, six cases were chronic non specific duodenitis, one was hyperplastic polyps, one case was moderately differentiated adenocarcinoma.

27 cases were biopsies from ileal, jejunal and colonic regions excluding anal canal and rectum. The most common lesion was 14 cases of chronic non specific colitis (56%). 10 cases of colon were reported as adenocarcinoma and one case of colon was tuberculous lesion. Only one case of ileal biopsy was received which was reported as tuberculous lesion.

FIGURE 1: 10x : squamous cell carcinoma of esophagus showing invasive squamous epithelium and keratin pearl

FIGURE 2: shows a case of moderately differentiated adenocarcinoma of colon.
Krishnappa R., Venkatesh V. in their study did not find any case of chronic non-specific duodenitis. This is similar to study done by Venkatesh V and Hirachand et al. found similar findings. Regarding malignant cases, a total of 31 cases were reported as malignant. The most common site was found to be esophagus, which is similar to the study done by Venkatesh V, however it is in contrast with study done by Hirachand et al. 

**CONCLUSION**

A variety of non-neoplastic and neoplastic lesions were reported in the present study with a wide range of age and site distribution. The most common site being stomach. The most common neoplastic lesion was squamous cell carcinoma of the esophagus and non neoplastic lesion was chronic non specific gastritis.

Advantages are it is a minimally invasive procedure and sensitive for diagnosing mucosal lesions. Disadvantages are it can not diagnose functional disease. Wall thickness and luminal diameter can not be assessed. Very tiny biopsies are difficult to assess.

Endoscopy with combination of histopathological examination of biopsy plays an important role in early diagnosis of diseases and further management.

**REFERENCES:**

3. Venkatesh V, Thaj R Riyana. Histopathological Spectrum of Lesions in Gastrointestinal Endoscopic Biopsy: A Retrospective Study in a Tertiary Care Center in India; World Journal of Pathology Volume No 8, 2019 Feb

**Table 1** shows distribution of lesions in gastrointestinal tract.

**Table – 1 Distribution of lesions in gastrointestinal tract (n=91)**

<table>
<thead>
<tr>
<th>Tissue (n)</th>
<th>Diagnosis</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esophagus(20)</td>
<td>squamous cell carcinoma</td>
<td>60(2)</td>
</tr>
<tr>
<td></td>
<td>Dysplastic squamous epithelium</td>
<td>10(2)</td>
</tr>
<tr>
<td></td>
<td>Chronic non-specific esophagitis</td>
<td>30(6)</td>
</tr>
<tr>
<td>Stomach (30)</td>
<td>Chronic non-specific gastritis</td>
<td>68(20)</td>
</tr>
<tr>
<td></td>
<td>Hyperplastic polyp</td>
<td>6(2)</td>
</tr>
<tr>
<td></td>
<td>Adenocarcinoma</td>
<td>26(8)</td>
</tr>
<tr>
<td>Duodenum(8)</td>
<td>Chronic non-specific duodenitis</td>
<td>75(6)</td>
</tr>
<tr>
<td></td>
<td>Hyperplastic polyp</td>
<td>12.5(1)</td>
</tr>
<tr>
<td></td>
<td>Moderately differentiated</td>
<td>12.5(1)</td>
</tr>
<tr>
<td>Ileum(1)</td>
<td>tuberculous lesion</td>
<td>100(1)</td>
</tr>
<tr>
<td>Jejunum(1)</td>
<td>Chronic non-specific inflammation</td>
<td>100(1)</td>
</tr>
<tr>
<td>Colon(25)</td>
<td>Chronic non-specific colitis</td>
<td>56(14)</td>
</tr>
<tr>
<td></td>
<td>Adenocarcinoma</td>
<td>40(10)</td>
</tr>
<tr>
<td></td>
<td>Moderately differentiated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tuberculous lesion</td>
<td>4(1)</td>
</tr>
</tbody>
</table>

Out of 91 cases 31 cases were malignant. Their distribution is shown in Table 2.

**Table – 2 Distribution showing malignancies of GIT (n=31)**

<table>
<thead>
<tr>
<th>SITE OF MALIGNANCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESOPHAGUS</td>
<td>39</td>
</tr>
<tr>
<td>STOMACH</td>
<td>26</td>
</tr>
<tr>
<td>DUODENUM</td>
<td>5</td>
</tr>
<tr>
<td>ILEUM &amp; JEJUNUM</td>
<td>0</td>
</tr>
<tr>
<td>COLON</td>
<td>32</td>
</tr>
</tbody>
</table>

**Figure 2:** 40X: moderately differentiated adenocarcinoma of colon showing malignant glands

**DISCUSSION**

In clinical practice gastrointestinal tract lesions are one of the most commonly encountered problems which can be broadly classified into upper and lower gastrointestinal lesions.

In our study, most common biopsies that we retrieved were gastric biopsies which was 40% of total 91 cases. This is similar to a study by Venkatesh V, Krishnappa Rashmi and Prashad PR. In their studies they found percentage of gastric biopsies to be 57%, 68% and 56% respectively.

Of the total 30 cases of stomach, 22 were non neoplastic and 8 were neoplastic. Most common lesion was chronic gastritis. In the studies done by Venkatesh V and Hirachand et al. found similar findings.

Eight cases were malignant, moderately differentiated adenocarcinoma was the most common type. This is similar to the findings of Venkatesh V, Hirachand et al. and Sharma et al.

Regarding esophageal biopsies, we received 20 cases. Out of which 14 cases were malignant and 6 cases were benign. The malignant cases were of squamous cell carcinoma type. Venkatesh V, Bilal A Sheikh, Islam et al found similar data as our study. Although Islam et al in their study found that 18.75% cases of esophagus were adenocarcinoma.

Out of eight cases of duodenum, only one case was malignant (moderately differentiated adenocarcinoma). Other seven cases were chronic non specific duodenitis. This is similar to study done by Krishnappa R. Venkatesh V in their study did not find any case of malignancy of duodenum.

Among the lower gastrointestinal biopsies, colonic biopsies were most common comprising of 25 cases. We found that the most common lesion in colon in our study was chronic non specific colitis (56%). There were 10 cases of moderately differentiated adenocarcinoma, which is similar to the finding of studies done by Venkatesh V and Durani A. 

Regarding malignant cases, a total of 31 cases were reported as malignant. The most common site was found to be esophagus, which is similar to the study done by Venkatesh V; however it is in contrast with study done by Hirachand et al.