Comparison of Dysplasia and Regenerative Atypia in Endoscopic Gastric Biopsies

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Abstract - Gastric cancer remains the second most common cause of cancer related deaths worldwide. In tumor progression model of intestinal type of gastric carcinoma, the cellular changes progress from initial inflammation and chronic gastritis to metaplasia, dysplasia and adenocarcinoma. Distinguishing regenerative atypia from dysplasia and carcinoma is the most daunting challenge for a pathologist. Focusing on cytological features can provide an opportunity for early diagnosis and may improve patient’s survival.

Key Words: (Gastric Cancer), (Endoscopic Biopsies), (Dysplasia)

1. INTRODUCTION

Gastric epithelial dysplasia is a non-invasive neoplastic lesion, associated with increased risk of gastric adenocarcinoma. It can arise either in metaplastic mucosa (intestinal metaplasia) or in native mucosa. The histologic diagnosis of gastric dysplasia can be diagnostic challenge to pathologists all over the world due to multiple causes including

I. Interobserver variation

II. Specimen orientation

III. Sampling issues

IV. Difficulty in distinguishing dysplasia from reactive atypia.

2. MATERIALS AND METHODS

2.1 Study settings

This study was conducted in the Department of Pathology, Kasturba Medical College and Hospital, Manipal. Gastric biopsy samples reported in the department in the period between JAN 2011 –DEC 2012 were included in the study as per the inclusion and exclusion criteria.

2.2 Study design

Cross sectional study

2.3 Study Procedure

A detailed case proforma was prepared before the start of the study. A total of 400 gastric biopsies were included as per the inclusion and exclusion criteria. The endoscopic findings of all these gastric biopsy samples were also recorded in the case proforma sheet.

The following are the histological parameters for,

2.4 Inclusion Criteria

Foveolar hyperplasia, Gastric polyp, Gastric ulcer, Chronic gastritis associated with or without regenerative atypia, Presence or absence of Helicobacter pylori, Gastric atrophy, Intestinal metaplasia, Low grade dysplasia, High grade dysplasia.

2.5 Exclusion Criteria

Normal biopsies and those with frank invasive malignancies.

All gastric biopsy specimens obtained from endoscopy were fixed in 10% formalin, embedded in paraffin and sectioned at 5μ thickness.

<table>
<thead>
<tr>
<th>DIAGNOSIS</th>
<th>Sex</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Dysplasia</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Regenerative Atypia</td>
<td>11</td>
<td>36</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>51</td>
</tr>
</tbody>
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3. RESULTS AND ANALYSIS

In the present study a total of 400 gastric biopsies were studied after excluding normal biopsies and biopsies with malignancies. Out of 400 biopsies, 66 cases showed cellular atypia.
SITE OF BIOPSY:

All Endoscopic biopsies were taken from antrum and body of stomach.

AGE AND SEX DISTRIBUTION:

The age and sex distribution of the patients is shown (Table-1). In general, there was a male preponderance.

CELLULAR ATYPIA:

In cases with cellular atypia, regenerative atypia cases were 47(71.21%) and dysplasia cases were 19(28.79%). The criteria given by Lewin & Goldstein was used to separate regenerative atypia from dysplasia.

Following are the types & percentile of cases of individual category which were encountered in cases with cellular atypia in this study (Chart-1)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Regenerative atypia</td>
<td>47(71.21%)</td>
</tr>
<tr>
<td>Dysplasia</td>
<td>19(28.79%)</td>
</tr>
</tbody>
</table>

Chart -1: Cases with Cellular Atypia (N=66)

Fig -1: Endoscopic Picture Of Low Grade Dysplasia Case.

4. CONCLUSIONS

The present study attempted to evaluate the histopathological parameters to define dysplasia and regenerative hyperplasia and their association with other conditions in gastric biopsies.
chromatin, nuclear stratification, irregular macronucleoli and regionally uniform histological change (statistical significance (p<0.05).

REFERENCES


