



HISTOPATHOLOGICAL STUDY OF THE UPPER GASTROINTESTINAL TRACT ENDOSCOPIC BIOPSIES

Histopathology

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ABSTRACT

Upper gastrointestinal tract disorders are one of the most commonly encountered problems in clinical practice and are a leading cause of morbidity and mortality. A wide spectrum of disorders can affect the upper gastrointestinal tract with inflammatory and neoplastic lesions being the most common. The definitive diagnosis of upper gastrointestinal disorders rests on the histopathological confirmation and is one of the bases for planning proper treatment.

KEYWORDS

Endoscopy, Upper GI tract, Chronic Gastritis, Adenocarcinoma.

INTRODUCTION

Endoscopy provides an opportunity to visualize the mucosal surface of the GI tract and examination of specimens obtained by endoscopy is a routine procedure for managing disorders of the alimentary tract. The lesions from upper gastrointestinal tract include those arising from the esophagus, stomach, first and second part of duodenum, which are leading cause of morbidity and mortality. Upper GI endoscopy in combination with biopsy plays an important role in the diagnosis and treatment of GI lesions, but the definitive diagnosis of upper GI disorders rests on the histopathological confirmation.

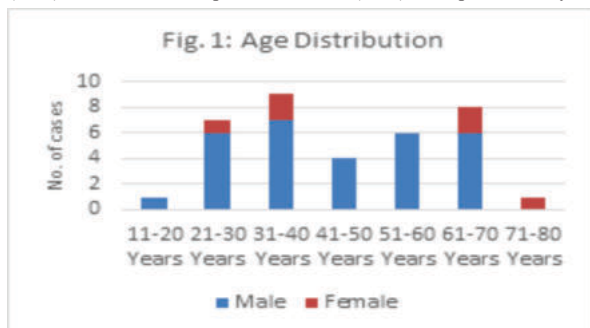
This study was conducted to determine the frequency as well as to study the spectrum of the histopathological lesions of upper GI tract. The clinical symptoms, endoscopic findings, and histopathological findings were also correlated.

METHODS

The biopsies were taken under aseptic precautions. These were 36 biopsies, received in properly labeled and tightly closed container containing 10% formalin, which were then examined grossly for the number and appearance. After adequate fixation, entire biopsy was processed routinely and embedded in paraffin with mucosal surface uppermost. Five-micron thick sections were cut perpendicular to this surface using rotary microtome and 3-4 serial sections were prepared on each slide. Sections were stained with routine Hematoxylin and Eosin stain, special stain Giemsa for *Helicobacter pylori* and mounted with cover slips using Distyrene Plasticizer Xylene (DPX) as mountant.

RESULTS

Amongst all the biopsies received, maximum (67%) were from stomach, followed by esophagus (19%) and then, duodenum (14%). Though upper GI lesions are found in almost all the age groups, in the present study, it was seen that maximum biopsies were obtained from people in 4th (25%) and 7th (22%) decade of lives (Fig.1) and males (83%) were more as compared to females (17%) in the present study.



Non neoplastic lesions were 27(75%) and 9(25%) were neoplastic. The most common non neoplastic lesion was chronic gastritis (Fig.2) seen in 15(41.66%) biopsies on histopathologic examination while 1(2.7%) case of chronic gastritis with chief cell hyperplasia. *Helicobacter pylori* was found to be associated with 6(16.6%) cases of chronic gastritis (Fig3) while 1(2.7%) case of pernicious anaemia.

In neoplastic lesions, 3(8.3%) cases of squamous cell carcinoma of oesophagus were the most frequently diagnosed malignant lesions (Fig.4). Amongst gastric carcinomas, most common histological pattern noted was adenocarcinoma 5(13.8%) (Fig.5). Duodenal biopsies showed chronic non specific duodenitis 4(11.1%) and 1(2.7%) case of cryptosporidium parvum.

DISCUSSION

In the present study, it is evident that majority of the upper GI endoscopic biopsies were from stomach, which is comparable with the studies reported by Rashmi et al [2], Memon et al [3], and Abilash SC et al [4].

Overall, all age group patients underwent endoscopic biopsies, majority were in the age group of 4th-7th decade of life in the present study. The results are almost comparable to the study by Rashmi et al [2], Abilash SC et al [4], and Shanmugasamy et al [5]. This may be due to the possibility of malignancy which increases with age and even the slightest suspicious area on endoscopy in elderly patients warrants the histopathological analysis. In the present study most of the patients were males with M:F ratio of 5:1. These findings are closer to the study by Hussain et al [6]. Similarly, Gulia et al [1], Rashmi et al [2], Sheikh et al [7], Abilash SC et al [4], and Shanmugasamy et al [5] also reported the gender ratio favoring the males. This may be reflective of the fact that males are exposed to more risk factors than females or due to overall large number of male patients attending outpatient department of the hospital as compared to female patients.

The present study showed the most common histological type of malignancy in esophagus to be squamous cell carcinoma. The same results were seen in the study by Rashmi et al [2], Mchembe et al [9], Abilash SC et al [4] and Shanmugasamy et al [5].

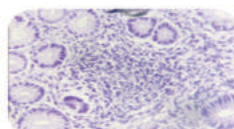


Fig. 2: Chronic Gastritis Showing mononuclear inflammatory infiltrate(40X, H&E)

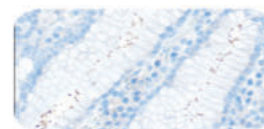


Fig. 3: H.Pylori highlighted with an immunostain (40X)

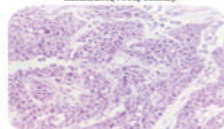


Fig. 4: Squamous cell carcinoma (40X, H&E)

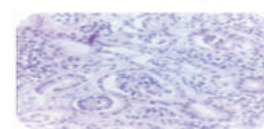


Fig. 5: Gastric adenocarcinoma (40X, H&E)

Among the non-neoplastic lesions (27 cases), highest number of cases in gastritis fell under the group of chronic non-specific gastritis accounting for 41.66% cases. Similar observation was made by Rashmi et al [2] (37% cases) while Jawalkar et al [10] reported a higher number (65.22% cases).

Majority of the gastric malignancies arise in the antrum and pylorus region of stomach. Similarly, higher involvement of antrum and pylorus by gastric malignancies was seen in the study by Rashmi et al [2] and Sheikh et al [7].

In the present study, 4 cases (11%) of duodenal biopsies showed chronic non-specific duodenitis and 1 (2.7%) case was of cryptosporidium parvum. This was similar to the study of Khandige et al [8]. This may be due to the fact that duodenum has a rich rapidly regenerating epithelial lining which can easily be affected by any inflammatory insult.

CONCLUSIONS

Upper gastrointestinal endoscopy is an effective and appropriate initial investigation to assess patients with upper gastrointestinal symptoms. Histopathology is the gold standard for the diagnosis of endoscopically detected lesions.

Conflict Of Interest

There is no conflict of interest.

Ethical Committee Approval

This study has been approved by the institutional ethical committee.

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There is no source of funding.

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