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PRIMARY DUODENAL ADENOCARCINOMA PROFILE IN SUBHIMALAYAN REGIONS OF HIMACHAL PRADESH

Pathology

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ABSTRACT

Background- Duodenal adenocarcinoma is a rare cancer usually studied as a group with periampullary or small bowel adenocarcinoma; therefore, its natural history is poorly understood. **Objectives**: To study the spectrum of duodenal neoplastic lesions and its correlation with socio-demographic details. **Materials and Methods**: This was an observational study conducted at department of pathology, at Dr.RPGMC Tanda for a duration of one year. A total of 58 duodenal endoscopic biopsies were received and were routine processed and histopathological assessment was done. **Results**: Age of the patients varied from 41-90 years. Out of 58 duodenal endoscopic biopsies, 53 biopsies diagnosed as non neoplastic lesion and 5 biopsies diagnosed as neoplastic lesions were included in the present study. **Conclusion**: Endoscopy guided biopsy is simple, safe, cost effective, day care procedure with less complication rates and gives direct visualization of pathological site. Most of the patients with duodenal malignancy have vague symptoms or no symptoms in early stage and are often diagnosed only in advanced stage. Hence, endoscopy in combination with biopsy acts as a useful diagnostic tool for duodenal lesions and has revolutionized the management of patients.

KEYWORDS

Biopsy, Neoplastic lesions, Dietary, Adenocarcinoma

INTRODUCTION

Duodenal adenocarcinoma is limited as a result of the rare nature of the disease. Among periampullary adenocarcinomas (pancreatic, ampullary, distal bile duct, and duodenal), the duodenum is the primary site for only 7% of case"(1)".Duodenal adenocarcinoma (DA) is a rare malignancy of the gastrointestinal tract with an incidence of approximately 0.5 per 100000 persons, and it constitutes less than 5% of all gastrointestinal tumors"(2)". Despite its rarity, the incidence of DA has increased over the last years. Its natural history is poorly understood.

Upper endoscopic biopsy in combination with histopathological examination plays an important role in the early diagnosis of gastroduodenal lesions"(3)". Though endoscopic biopsies are invasive procedures, it is considered to be the gold standard for determining gastrointestinal tract lesions. It also helps the clinician and pathologist to correlate with the clinical data"(4)".

Duodenal adenocarcinoma is a rare but aggressive malignancy. Compared to some other periampullary malignancies, duodenal adenocarcinoma is more likely to be amenable to curative resection and has more favorable long term outcomes. The purpose of this study is to identity the precursor lesions and further limit the spread of tumor by early diagnoses. Additionally, speedily diagnosis bridle the extent of surgical resection and enhance the role of adjuvant therapy and enhance the survival rate of patient.

METHODS AND MATERIALS

This was a hospital based observational study conducted in a tertiary care centre in the subhimalayan regions of Himachal Pradesh. The study comprised of 58 patients of duodenal biopsy (D1 and D2) subjected to upper gastrointestinal(GI) endoscopy over the period of one year at Dr. RPGMC Tanda. Patients whose clinical presentation warranted a diagnosis were selected for the study. Symptoms such as anorexia, weight loss of recent onset, persistent abdominal pain, postprandial fullness, recurrent diarrhea, malena and refractory anemia were considered suggestive of a possible duodenal neoplasm. The clinical examination included degree of cachexia and anemia, abdominal mass and signs of obstruction.

Patients with tumors other than intestinal-type adenocarcinoma or metastases from other primary tumors were excluded, as well as patients diagnosed with a malignancy within 5 years prior to or after diagnosis. Histopathological processing was done by as per the routine histopathology processing protocol. The Haematoxylin and Eosin stained slides were examined and final histopathological diagnosis was performed.

OBSERVATIONS AND RESULTS

- The study included 58 cases of duodenal lesions. The age of the patients varied from 41 to 90 years. The most common presenting complaint for patients with duodenal adenocarcinoma presented with loss of appetite with recurrent diarrhea, malena and anorexia. On endoscopy, the commonest pattern of presentation of the duodenal adenocarcinomas was an ulceroproliferative lesion followed by polypoidal growths (figure-1). Among 58 cases of duodenal biopsies 53(91.3%)cases showed non-neoplastic lesion, out of which 51 cases were inflammatory lesion, 2 were benign polyp and 5(8.7%)were neoplastic lesion which was adenocarcinoma. Histology revealed Adenocarcinomas, not otherwise specified, are characterized by columnar epithelial cells with elongated, pseudostratified nuclei forming complex glandular architecture with nuclear pleomorphism, loss of epithelial polarity and luminal dirty necrosis(figure2).

DISCUSSION

Upper gastrointestinal tract disorders are the common complaints in the clinical practice and has got high degree of mortality and morbidity. Upper GIT endoscopic biopsies include biopsies from esophagus, stomach and duodenum (upto the second part of duodenum). Endoscopy or colonoscopy has incomplete diagnostic relevance without biopsy or histopathological examination. Hence, histopathological examination of biopsies are considered as gold standard investigation for GI lesions"(5)". Duodenal adenocarcinoma is a rare tumor and rare cause of morbidity and mortality throughout the world as well as in India. In present study, 5 were neoplastic lesion on histopathological examination out of 58 cases. Its natural history is poorly understood but Inflammatory, autoimmune, genetic and familial diseases have been recognized as its common risk factors encompasses crohn's disease,celiac disease,familial adenomatous polyposis (FAP), peutz- jeghers syndrome and lynch syndrome. FAP has 3 - 5% lifetime risk and most common tumor occur in the duodenum and periampullary regions. In addition to that risk increases with a higher number of polyps, larger polyps and those with poorer histologic features. Peutz-Jeghers syndrome has 1.7 - 13% lifetime risk. Lynch syndrome has 4% lifetime risk and most commonly occur in the duodenum and jejunum. Other associations and risk factors include exposure to acid and bile, especially in the vicinity of ampulla and pylorus, smoking, alcohol and dietary factors (low fiber, high red meat consumption, sugary drinks) and duodenal or jejunal bypass surgery"(6)". In present study, 5 were neoplastic lesion on histopathological examination out of 58 cases. Our findings correlate well with the other studies.

Prospective study of upper GI endoscopic biopsy was carried out by

Anjana M et al observed that commonly encountered duodenal lesion in upper GI biopsies was chronic duodenitis which constituted 25(59.5%) cases. Malignancy was seen in 6(14.2%) cases and benign neoplasm in 5(11.9%) cases"(7)". Jannatul Ferdous et al observed 15 cases of duodenal biopsies, 13 (86.7%) cases show non-neoplastic lesions and 2 (13.3%) are neoplastic one of which is adenocarcinoma (6.7%). In this study incidence of inflammatory lesion is more than neoplastic lesions"(8)". In our study incidence of inflammatory lesion is more, which is similar to other studies. Incidence of adenocarcinoma is 8.6% which is similar to another studies. Incidence of duodenal carcinoma is comparatively lower in india than in other countries. However, Pickled food, high rice intake, spicy food, excess chilly consumption, consumption of high-temperature foods and smoked dried salted meat have emerged as significant dietary risk factors in various parts of India. These practices are prevalent in subhimalayan regions of India where a higher frequency of duodenal adenocarcinoma cases are observed. Tobacco use in any form (chewing, smoking and drinking) was observed to increase the risk of gastroesophageal cancer in subhimalayan regions of India as compared to primary duodenal adenocarcinoma"(9)".

Figure 1: Distribution Of Endoscopic Finding Of Duodenal Lesions

ENDOSCOPIC FINDING	NUMBER OF CASES	% OF CASES
Atrophic duodenal folds	18	31%
Duodenal polyp	2	3.4%
Ulceroproliferative lesions	3	5.1%
Scalloping of duodenal folds	35	60.5%

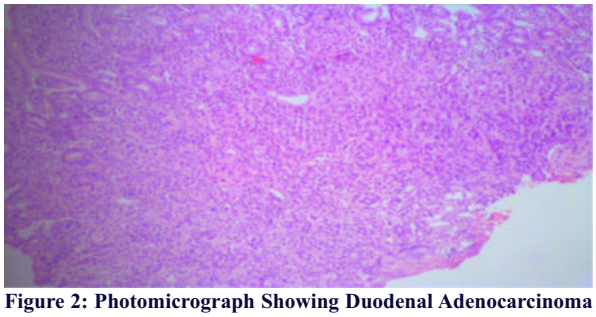

Figure 2: Photomicrograph Showing Duodenal Adenocarcinoma (h&e,100x).

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