

Histopathological Spectrum of Colorectal Cancer

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Abstract

Background: The large bowel is affected by a variety of lesions which include both neoplastic and non-neoplastic lesions. Colorectal cancer is the fourth most common cancer worldwide and one of the leading cause of cancer related deaths.

Aims: To study the histopathological spectrum of colorectal cancer and evaluate them in relation to the age and sex of the patients and the site of the lesion.

Materials and Method: Histopathological study of cases of colorectal cancer was carried out in the Department of Pathology, AMCH, Dibrugarh from January 2018 to December 2018.

Results: Out of a total of 39 cases, 21 were reported in females and 18 in males with the commonest age group involved being 41-60 years. The most common histological type was found to be well differentiated adenocarcinoma and most common site was rectum.

Conclusion: Early detection of colorectal carcinoma through colonoscopic examination and diagnosis by histopathologic examination is very necessary for proper treatment.

Keywords: *Histopathological spectrum, colorectal cancer, adenocarcinoma, neoplastic, colonoscopic examination*

Introduction

Colorectal cancer is emerging as a common cancer worldwide. It is the fourth ranking cancer worldwide, accounting for approximately 9% of all cancers.¹ This may be attributed to consumption of a high fat and red meat diet and lack of physical activity resulting in obesity. Non dietary causes include genetic predisposition. Geographic differences are most probably due to dietary habits and other environmental factors.

In the Indian scenario, colorectal cancer stands fourth in men and third in women with respect to incidence and mortality rates.² Although the incidence

is low as compared to Western countries, an increasing trend in the incidence can be seen due to westernization of lifestyle.

This study was undertaken to evaluate the histopathological spectrum, age-sex distribution and the site of colorectal cancer cases reported in our department and to compare it with other studies.

WHO histological classification of tumours of the colon and rectum

Epithelial tumours

Adenoma

Tubular

Villous

Tubulovillous

Serrated

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Intraepithelial neoplasia (dysplasia) associated with chronic inflammatory diseases

Low- grade glandular intraepithelial neoplasia

High-grade glandular intraepithelial neoplasia

Carcinoma

Adenocarcinoma

Mucinous adenocarcinoma

Signet-ring cell carcinoma

Small cell carcinoma

Squamous cell carcinoma

Adenosquamous carcinoma

Medullary carcinoma

Undifferentiated carcinoma

Carcinoid (well differentiated endocrine neoplasm)

EC-cell, serotonin- producing neoplasm

L-cell, glucagon-like peptide and PP/PPY producing tumour

Others

Mixed carcinoid-adenocarcinoma

Others

Non-epithelial tumours

Lipoma

Leiomyoma

Gastrointestinal stromal tumour

Leiomyosarcoma

Angiosarcoma

Kaposi sarcoma

Malignant melanoma

Others

Malignant lymphoma

Marginal zone B cell lymphoma of MALT type

Mantle cell lymphoma

Diffuse large B-cell lymphoma

Burkitt lymphoma

Burkitt-like/ atypical Burkitt lymphoma

Others

Secondary tumours

Polyps

Hyperplastic (metaplastic)

Peutz-Jeghers

Juvenile

Aims and Objectives

1. To study the histopathological spectrum of colorectal carcinoma

2. To evaluate the age, sex and anatomical distribution of lesions of colorectal cancer among the patients.

Materials and Method

The present study was undertaken in the Department of Pathology, AMCH, Dibrugarh over a period of one year from January 2018 to December 2018 where a total of 39 cases were evaluated. The material for the study comprised of resected specimens of colon as well as biopsy specimen received in the department for histopathological examination.

All biopsies and resected specimens were immediately fixed in 10% formalin for 24hrs. Gross features of specimens noted and multiple sections were taken. Routine tissue processing was done and sections were stained with hematoxylin and eosin. After detailed study of the sections under light microscope, final diagnosis was given and statistical analysis was done.

Results

During the study period, a total of 39 cases of colorectal cancer were evaluated. Among the 39 cases, 21 (53.9%) were reported in females and 18 (46.1%) in males with maximum number of cases seen in 41-60 years age group.

The most common histological type was found to be well differentiated adenocarcinoma with 15 (38.5%) cases followed by moderately differentiated carcinoma with 14 (35.9%) cases. The least common type was seen to be signet ring adenocarcinoma.

The most common site for occurrence of colorectal cancer was found to be rectum followed by sigmoid colon.

The results are shown in Tables 1, 2 and 3.

Table 1: Age and Sex distribution

Age in years	Males	Females	Number of cases	Percentage
5-20	1	1	2	5.3
21-40	5	5	10	25.6
41-60	7	10	17	43.5
61-80	5	5	10	25.6
Total	18	21	39	100

Table 2: Histological types of colorectal cancer

Histological type	Number of cases (%)
Well differentiated adenocarcinoma	15 (38.5)
Moderately differentiated adenocarcinoma	14 (35.9)
Poorly differentiated adenocarcinoma	3 (7.7)
Mucinous adenocarcinoma	6 (15.4)
Signet ring cell adenocarcinoma	1 (2.5)
Total	39 (100)

Table 3: Site distribution of colorectal cancer

Site	Number of cases (%)
Caecum	2 (5.2)
Ascending colon	6 (15.5)
Transverse colon	5 (12.8)
Descending colon	4 (10.2)
Sigmoid colon	9 (23.0)
Rectum	13 (33.3)
Total	39 (100)



Fig.1: Gross hemicolectomy specimen

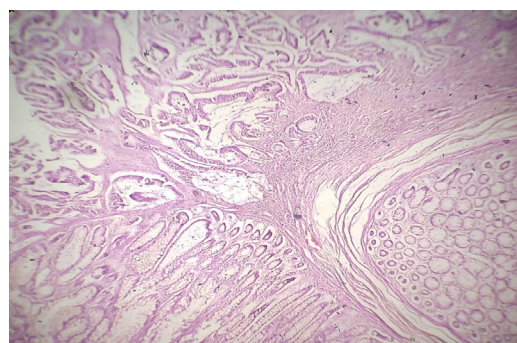


Fig.2: Moderately differentiated adenocarcinoma 10x

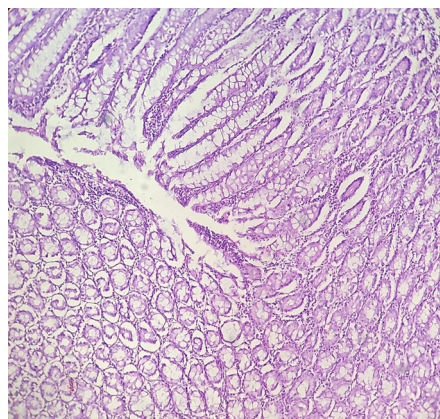


Fig. 3: Mucinous adenocarcinoma 10x

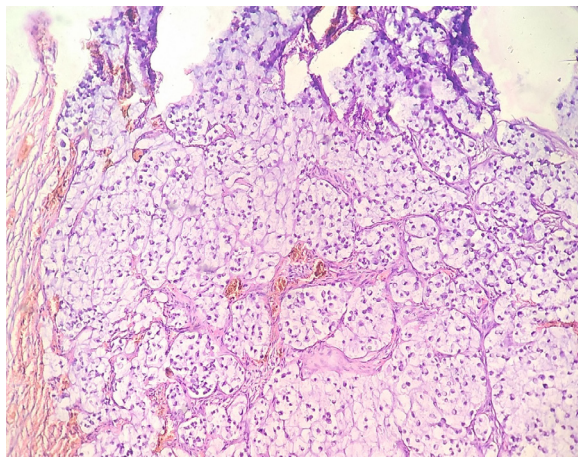


Fig.4 : Signet ring adenocarcinoma

Discussion

In our study the common age group involved was 4-6th decade of life, i.e, 17 cases (43.5%), a finding consistent with studies conducted by Mohsin-ul-Rasool et al³ and Pavani M et al⁴. However, in our study females outnumbered males whereas it was the other way round in the above two studies.

The most common histological type was found to be well differentiated adenocarcinoma in our study which is in accordance with the different studies carried out by Laishram et al⁵, Chaitanya et al⁶ and Shah and Wani⁷.

The most common site for occurrence of colorectal cancer was observed to be rectum with 13 cases (33.3%) which is similar to the findings of Sudarshan et al⁸ and Laishram et al⁵.

Conclusion

This study concludes that the large intestine is a site for various types of neoplastic and non-neoplastic lesions which present with vague symptoms, thus preventing their early diagnosis and treatment. So this study emphasises the need for early diagnosis of the disease through histopathological examination for initiation of appropriate treatment as early as possible for a better outcome.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: Taken from Institutional Ethics Committee, Assam Medical College, Dibrugarh

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