e-ISSN: 0975-1556, p-ISSN:2820-2643

Available online on www.ijpcr.com

International Journal of Pharmaceutical and Clinical Research 2025; 17(1); 243-257

Original Research Article

Adenocarcinoma of Colon and Rectum in Adults – An Institutional Case Series

Madhurima Bhattacharyya[1], Prasit Kumar Ghosh[2], Utpal Goswami[3]

[1,2,3]Dept. of Pathology, ICARE Institute of Medical Sciences & Research Haldia, West Bengal

Received: 25-10-2024 / Revised: 23-11-2024 / Accepted: 26-12-2024

Corresponding Author: Dr. Madhurima Bhattacharyya

Conflict of interest: Nil

Abstract:

Background: Colorectal adenocarcinoma is a major cause of cancer-related mortality worldwide, necessitating detailed histopathological evaluation for accurate staging and management. This case series aims to elucidate the clinicopathological features of colon adenocarcinoma in surgically resected specimens, highlighting variations in tumour site, histopathology, and staging.

Methods: This prospective case series analysed eight adult patients who underwent surgical resection for colorectal adenocarcinoma at Department of Pathology, ICARE Institute of Medical Sciences and Research, Haldia. Data were collected on patient demographics, surgical procedure type, tumour location, histopathological diagnosis, tumour grade, and TNM staging.

Results: The patients ranged from 31 to 87 years old, with a male predominance. Histopathological examination revealed mostly moderately differentiated adenocarcinoma. Staging varied from Stage IIA to IVB.

Conclusions: The findings demonstrate the predominance of moderately differentiated adenocarcinoma in various segments of the colon and rectum, often diagnosed at advanced stages. This underscores the importance of early detection and comprehensive histopathological evaluation to improve prognostic outcomes. Future studies with larger cohorts are needed to further explore the correlations between histopathological characteristics and clinical outcomes in colorectal adenocarcinoma.

Keywords: Colorectal Adenocarcinoma, Surgical Resection, TNM Staging.

Introduction

Colorectal adenocarcinoma is a prevalent form of gastrointestinal malignancy that significantly contributes to cancer-related morbidity and mortality worldwide. It is the third most common cancer and the second leading cause of cancer death in adults, affecting millions each year [1]. The disease typically originates from the epithelial cells lining the colon and rectum, and can vary widely in both histological appearance and clinical behaviour.

The risk factors for colorectal adenocarcinoma include age, genetic predisposition, dietary habits, lifestyle factors such as smoking and physical inactivity, and certain underlying conditions like inflammatory bowel disease and familial adenomatous polyposis [2]. The development of colorectal adenocarcinoma is believed to follow a progressive sequence of changes, known as the adenoma-carcinoma sequence, where benign polyps transform into malignant tumours over time [3].

Diagnosis and staging of colorectal adenocarcinoma are critically dependent on histopathological examination of resected tumour specimens. Histopathology not only confirms the presence of cancer but also determines the grade of tumour differentiation, which is a key predictor of prognosis. The tumour-node-metastasis (TNM) staging system, developed by the American Joint Committee on Cancer (AJCC), is the most widely used staging system and plays a pivotal role in guiding treatment decisions and predicting outcomes [4].

Despite advances in surgical techniques and adjuvant therapies, the prognosis for colon adenocarcinoma remains variable, largely influenced by the stage at diagnosis. Early-stage tumours, confined to the mucosa, have a favourable prognosis with high cure rates following surgical resection alone. In contrast, advanced disease, characterised by deeper invasion or metastasis, requires more complex treatment strategies and generally has a poorer outcome [5].

The following case series presents an analysis of colorectal adenocarcinoma cases treated at our institution, highlighting the diversity in presentation and histopathological features across different segments of the colon and rectum. By examining these cases, we aim to contribute to the growing body of literature on the pathophysiological characteristics and clinical management of this challenging disease.

Materials and Methods

Study Design and Setting: This prospective case series was conducted at the Department of Pathology, ICARE Institute of Medical Sciences and Research, Haldia. The primary objective was to analyse the clinical and pathological characteristics of colorectal adenocarcinoma in adult patients undergoing surgical resection.

Ethical Considerations: The study was conducted in accordance with the principles outlined in the Declaration of Helsinki, and applicable national and institutional guidelines. Patient confidentiality was strictly maintained, and data were anonymized to protect privacy.

Participants: The study included a total of eight adult patients diagnosed with colorectal adenocarcinoma. Inclusion criteria were adults aged 18 years and older who underwent surgical resection for colorectal adenocarcinoma.

Data Collection: Data collection covered various aspects starting with patient demographics, which included age and gender. Risk factors were noted which included diet, smoking, alcohol consumption, obesity, family history and associated conditions. Surgical procedure type was meticulously documented, detailing the specific surgical interventions performed as reported in surgical records. Tumour location was determined based on the location of the tumour within the colon, identified during surgical resection and later confirmed through histopathological examination.

The histopathological diagnosis involved classifying the tumour based on histopathological evaluation, incorporating both morphological and cytological features.

Tumour grade was assessed to determine the level of tumour differentiation, categorized as well, moderately, or poorly differentiated. Lastly, TNM Staging was conducted based on the TNM classification system, which evaluates the extent of the primary tumour (T), the involvement of regional lymph nodes (N), and the presence of distant metastasis (M).

Histopathological procedure: After surgical resection, all specimens were handled according to standardised protocols in the Department of Pathology at the ICARE Institute of Medical Sciences and Research, Haldia. The specimens were immediately fixed in 10% buffered formalin to preserve tissue architecture and prevent autolysis. Following fixation, the tissues were embedded in paraffin, and sections of 4-5 micrometres thickness were cut using a microtome.

The tissue sections were stained with hematoxylin and eosin (H&E) to examine the morphological features of the tumour cells. The histopathological evaluation focused on determining the degree of differentiation of the adenocarcinoma (graded as well, moderately, or poorly differentiated), assessing the presence and extent of invasion into adjacent tissues, and identifying any lymphovascular or perineural invasion. Tumour staging was carried out based on the TNM classification system, which considers the depth of invasion (T), the presence of regional lymph node metastases (N), and the presence of distant metastasis (M).

Statistical Analysis

Descriptive statistics were used to summarize patient demographics, risk factors, surgical details, histopathological findings, grading and staging. Data are presented as mean ± standard deviation for continuous variables and frequencies and percentages for categorical variables. Using SPSS software ver-26.0

Case 1: A patient 82 years/male, presented with symptoms such as Diarrhoea and unintentional weight loss. Colonoscopy biopsy and CT scan were done. Adenomatous polyp was involved in malignancy (villous adenoma). The surgical approach involved anterior resection, targeting a tumour located at rectosigmoid junction. This surgical choice aimed at removing the affected segment while restoring bowel continuity. Histopathology showed moderately differentiated adenocarcinoma, classified as Grade 2, Stage III B. Tumour size was 4 cm x 4 cm x 1.2 cm. Margins were free from tumour. Lymphovascular invasion (LVI) was present in small vessel and perineural invasion (PNI) was also present. 1 out of 4 regional lymph nodes were involved.

Case 2: A patient in the 31 year/ male presented with weakness, fatigue and abdominal pain. Patient had history of inflammatory bowel disease (ulcerative colitis) for 10 years. Colonoscopy biopsy and CT scan were done. He underwent right hemicolectomy with ileotransverse anastomosis and the tumour was found to be in the ascending colon. Specimen of gut contained part of ascending colon with annular fungating growth and mesenteric lymph nodes. On histopathological examination, it was found to be moderately differentiated adenocarcinoma (30% mucinous area) classified as Grade 2 and Stage 11A. Tumour size was 5.5 cm x 5 cm x 1.5 cm. Margins were free from tumour. Lymphovascular invasion (LVI) was not seen but perineural invasion (PNI) was present. 0 out of 4 regional lymph nodes were involved.

Case 3: A patient 87 years /female presented with diarrhoea and unintentional weight loss. Colonoscopy biopsy and CT scan were done. Adenomatous polyp was involved in malignancy (tubular adenoma). This patient underwent exploratory laparotomy with anterior resection. The tumour site was sigmoid colon. Histopathology revealed a well differentiated adenocarcinoma (Grade 1, Stage 11A). Tumour size was 3 cm x 2.5 cm x 1 cm. Margins were free from tumour. Lymphovascular invasion (LVI) was not seen but perineural invasion (PNI) was present. 0 out of 2 regional lymph nodes were involved.

Case 4: A patient 55 years / female presented with symptoms such as weakness, abdominal distension and nausea. Colonoscopy biopsy and CT scan were done. Adenomatous polyp (tubulovillous adenoma) was involved in malignancy. She was managed with anterior resection surgical procedure. Growth was found to involve recto-sigmoid junction. The histopathological examination showed moderately differentiated adenocarcinoma (Grade 2, Stage III B). Tumour size was 6 cm x 5 cm x 4.5 cm. Proximal and distal margins were uninvolved, while circumferential radial margin (CRM) was involved. Lymphovascular invasion (LVI) and perineural invasion (PNI) were present. 3 out of 8 regional lymph nodes were involved.

Case 5: A patient aged 33 years / male presented with weakness, fatigue, unintentional weight loss, rectal bleeding, and abdominal pain. Patient had history of inflammatory bowel disease (ulcerative colitis) for 11 years Colonoscopy biopsy and CT scan were done.

The tumour was located in the descending colon. He underwent left hemicolectomy. Histopathological examination revealed poorly cohesive carcinoma (signet ring cell type), classified as Grade 3, Stage III C.

This case underscores the aggressive nature of signet ring cell carcinomas, which often present at advanced stages. Tumour size was 5 cm x 4.5 cm x 3.5 cm. Margins were involved. Lymphovascular invasion (LVI) and perineural invasion (PNI) were present. 4 out of 8 regional lymph nodes were involved.

Case 6: A patient aged 54 years/ male presented with diarrhoea, unintentional weight loss. Colonoscopy biopsy and CT scan were done. Adenomatous polyp was involved in malignancy (tubulovillous adenoma). The patient was subjected to anterior resection. Growth was located in portion of sigmoid colon. HPE showed moderately differentiated adenocarcinoma (Grade 2, Stage 11A), reflecting the typical histopathological characteristic found in most cases. Tumour size was 3 cm x 2. 5 cm x 1.5 cm. Margins were free from tumour**.** Lymphovascular invasion (LVI) and perineural invasion (PNI) were present. 0 out of 1 regional lymph nodes were involved.

Case 7 – A patient was a 56 years/ male presenting with weakness, abdominal pain, constipation, abdominal distension, vomiting. Patient had history of inflammatory bowel disease (Crohn's disease) for 20 years. Colonoscopy biopsy and CT scan were done. The patient underwent right hemicolectomy with right transverse colectomy**.** Tumour was found to involve ascending colon and transverse colon. Histopathologically, the growth was classified as moderately differentiated adenocarcinoma grade 2, stage 11B. Tumour size was 7.5 cm x 6.5 cm x 2.5 cm. Proximal and distal margins were free from tumour, whereas serosal margin was involved. Lymphovascular invasion (LVI) was not identified but perineural invasion (PNI) was present. 0 out of 3 regional lymph nodes were involved.

Case 8: A patient was a 48 years/ female presenting with weakness, abdominal pain and vomiting. Patient had history of inflammatory bowel disease (ulcerative colitis) for 15 years.

Colonoscopy biopsy and CT scan were done. The patient underwent mid transverse colectomy. Tumour was found to involve mid part of transverse colon. Histopathologically, the growth was classified as grade 2, stage 1IA.

Tumour size was 5 cm x 4 cm x 1.5 cm. Margins were free from tumour. Lymphovascular invasion (LVI) was present but perineural invasion (PNI) was not identified. 2 out of 10 regional lymph nodes were involved.

Features	Case-1	Case-2	Case-3	Case-4	Case-5	Case-6	Case-7	Case-8
Age/Gender	82 / M	36 / M	87 / F	55 / F	33 / M	54/ M	56 / M	48 /F
Clinical presentation	diarrhoea, unintentional weight loss	weakness, fatigue and abdominal pain	diarrhoea, unintentional weight loss	weakness, abdominal distension, nausea	weakness, fatigue, unintentional weight loss, rectal bleeding, abdominal pain	diarrhoea, unintentional weight loss	weakness, abdominal pain, constipation, abdominal distension, vomiting	weakness, abdominal pain, vomiting
History	villous adenoma	UC-10 yrs	tubular adenoma	tubulovillous adenoma	UC-11 yrs	tubulovillous adenoma	Crohn's disease – 20 yrs	UC-11 yrs
Tumour Site	recto-sigmoid	ascending colon	sigmoid colon	recto-sigmoid	descending colon	sigmoid colon	ascending colon / transverse colon	mid part of transverse colon
Surgery	anterior resection	right hemicolectomy with ITA	anterior resection	anterior resection	left hemicolectomy	anterior resection	right hemicolectomy with right transverse colectomy	mid transverse colectomy

Features	Case-1	Case-2	Case-3	Case-4	Case-5	Case-6	Case-7	Case-8
Grade	2	2	1	2	3	2	2	2
Stage	III B	II A	II A	III B	III C	II A	II B	II A
Tumour size (cms)	4 x 4 x 1.2	5.5 x 5 x 1.5	3 x 2.5 x 1	6 x 5 x 4.5	5 x 4.5 x 3.5	3 x 2.5 x 1.5	7.5 x 6.5 x 2.5 cm	5 x 4 x 1.5
Margins	free	free	free	p/d-x CRM - involved	involved	free	p/d-x serosal-involved	free
MTP	x	x	x	yes	yes	x	yes	x
LVI	small vessel	x	x	present	present	present	x	present
PNI	present	present	present	present	present	present	present	x
RLNM	1 out of 4	0 out of 4	0 out of 2	3 out of 8	4 out of 8	0 out of 1	0 out of 3	2 out of 10

MTP=Macroscopic tumour perforation, LVI = Lymphovascular invasion, PNI = Perineural invasion, RLNM = Regional lymph node metastasis

Results & Analysis:

Table 1: Age Distribution (n=8)

Age Group	Number of Patients	Percentage
30-40 years	2	25%
41-60 years	4	50%
>60 years	2	25%

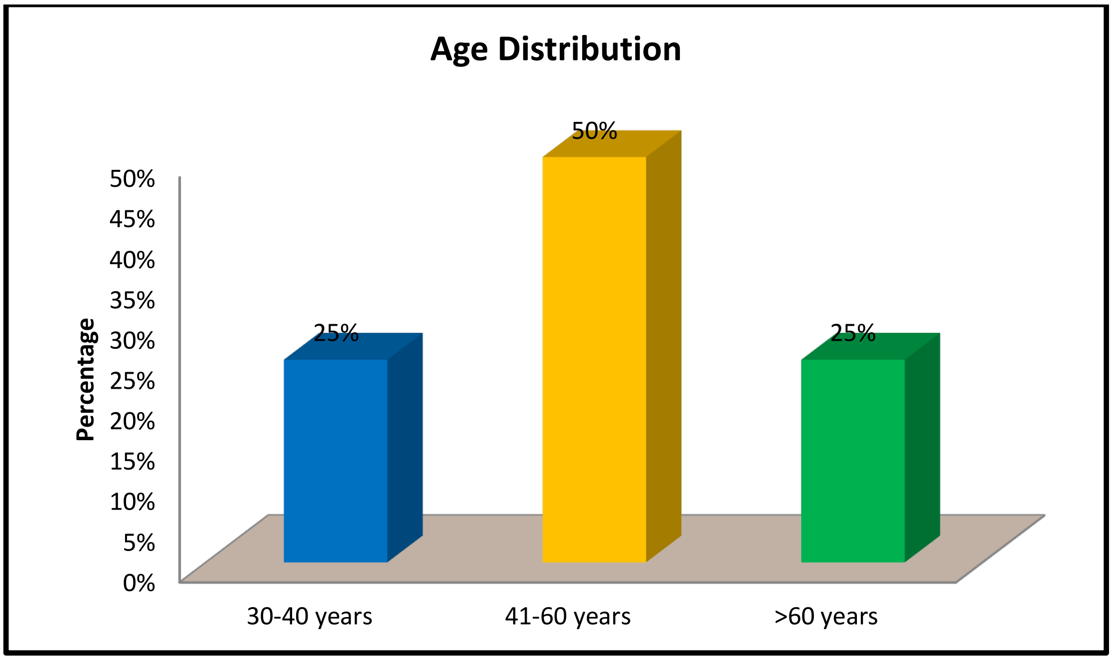

Figure 1: Age Distribution

The study included eight patients, divided across three age groups. Two patients (25%) were aged between 30-40 years, making it the youngest group. The majority, four patients (50%), fell within the 41-60 years age bracket. The remaining two patients (25%) were older than 60 years, highlighting a broad age range among the cases studied.

Table 2: Gender Distribution (n=8)

Gender	Number of Patients	Percentage
Male	5	62.5%
Female	3	37.5%

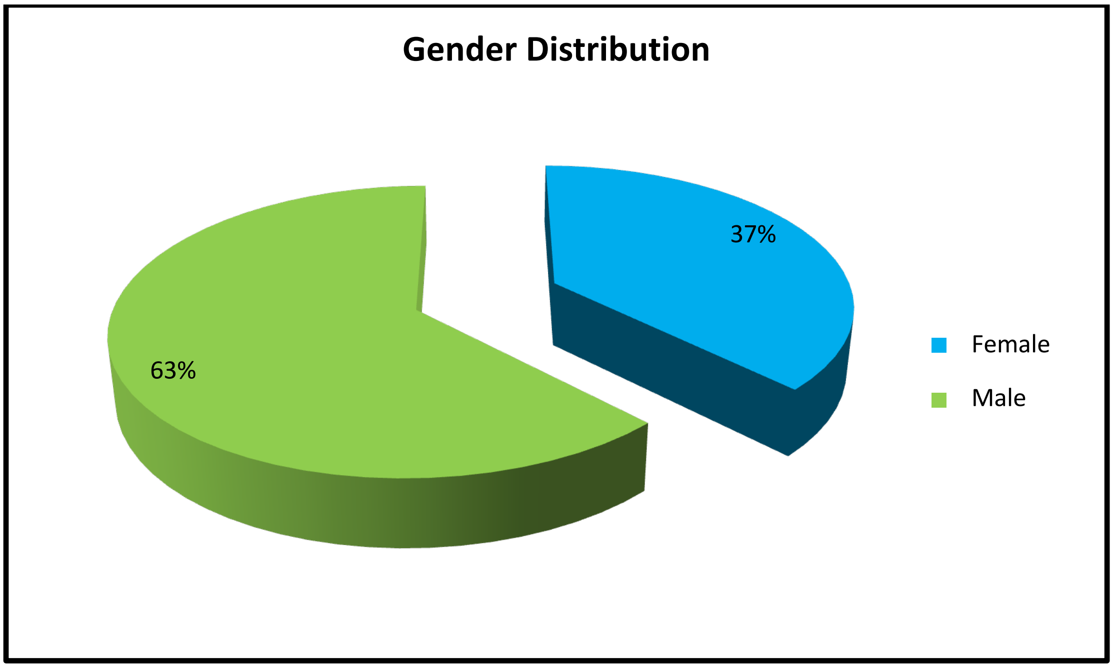

Figure 2: Gender Distribution

Out of the eight patients, five were male (62.5%), and three were female (37.5%). This distribution shows a higher prevalence of colorectal adenocarcinoma among males in our study cohort.

Table 3: Distribution of Religion (n=8)

Religion	Number of Patients	Percentage
Hindu	5	62.5%
Muslim	3	37.5%

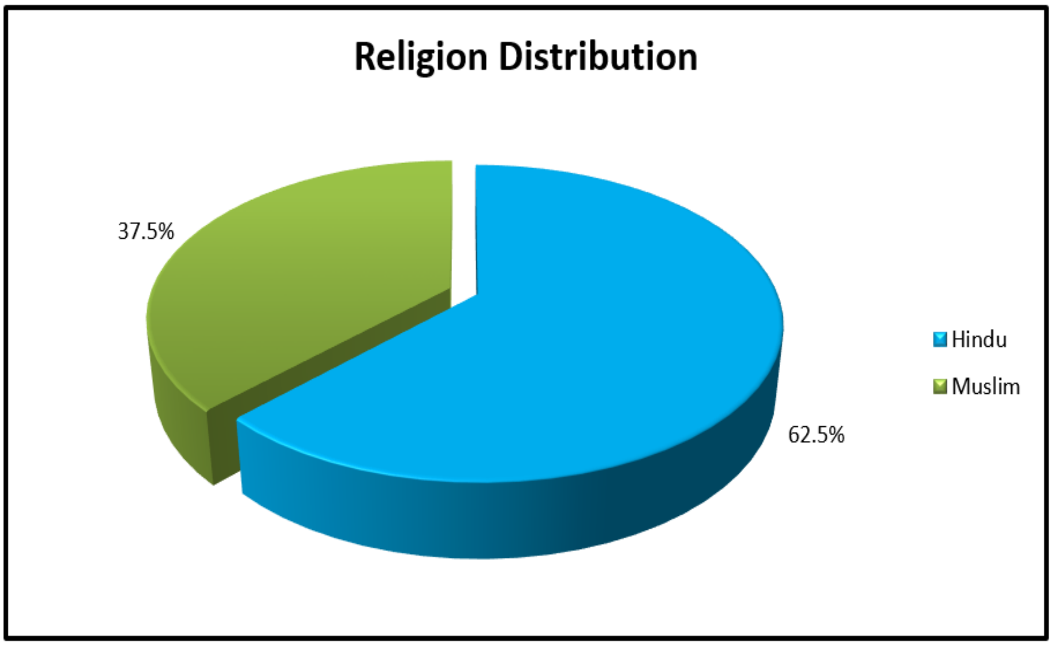

Figure 3: Distribution of Religion

In a case series analysing colorectal adenocarcinoma, the distribution of religion among the patients showed that 62.5% were Hindu and 37.5% were Muslim.

Table 4: Distribution of Dietary habits (n=8)

Dietary habits	Number of Patients	Percentage
Mixed	6	75.0%
Vegetarian	2	25.0%

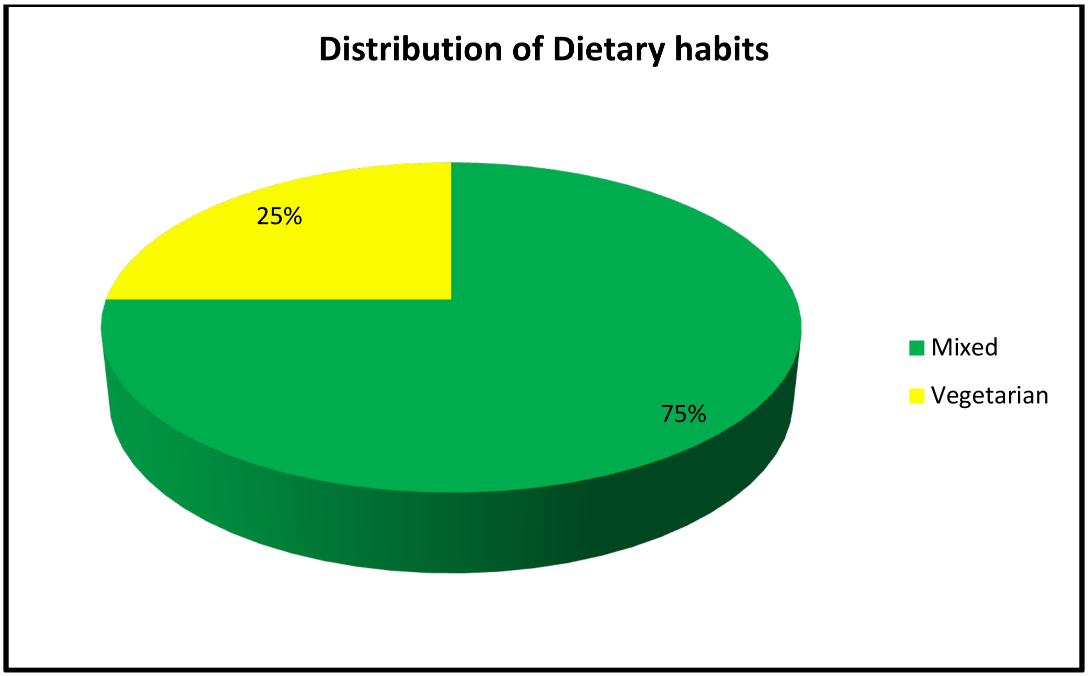

Figure 4: Distribution of Dietary habits

Regarding dietary habits, 75% of the patients followed a mixed diet while the remaining 25% were vegetarians.

Risk Factors:

- Cigarette smoking - 5 (62.5%)
- Obesity – 3 (37.5%)
- Alcohol consumption – 2 (25%)
- Family history positivity – 3 (37.5%)
- Familial adenomatous polyposis coli syndrome 1 (12.5%)
- Inflammatory bowel disease -3 (UC) (37.5%)
- Inflammatory bowel disease -1 (CD) -12.5%
- Adenomatous polyp – 4 (50%)

Table 5:

Risk Factors	Number of Cases	Percentage (%)
Smoking	5	62.5%
Obesity	3	37.5%
Alcohol consumption	2	25%
Family history	3	37.5%
Polyp	4	50%
IBD	4	50%

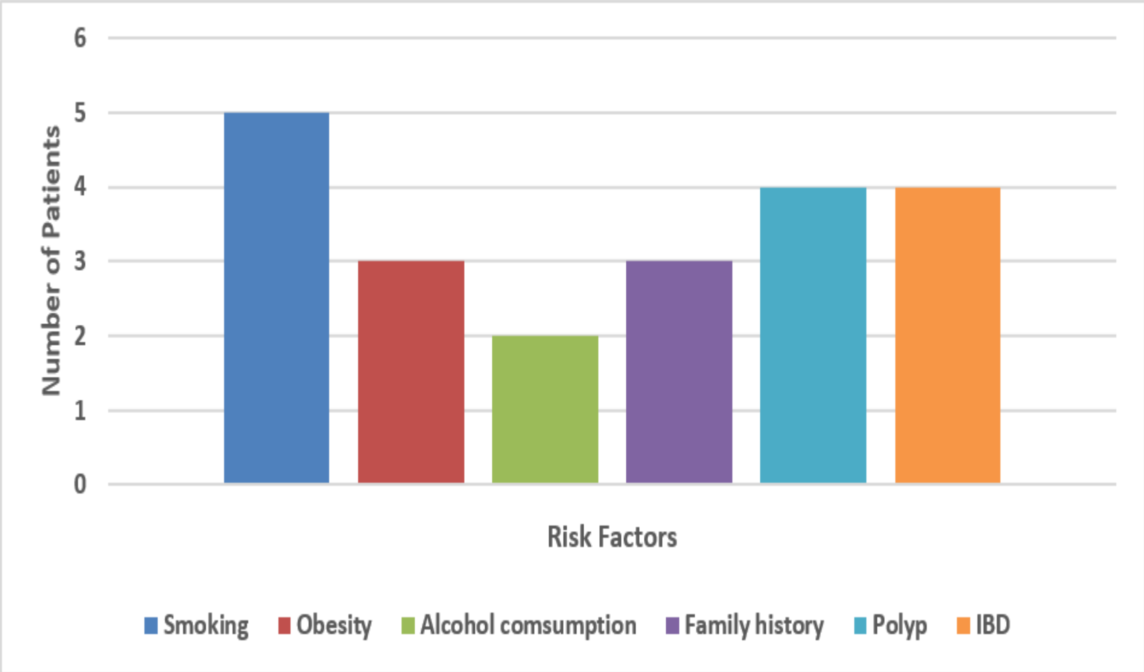

Figure 5:

Table 6: Clinical Presentation in Colorectal Adenocarcinoma Case (n=8)

Clinical features	Number of Cases	Percentage (%)
Weakness	5	62.5
Fatigue	2	25
Abdominal Pain	4	50
Abdominal distension	2	25
Constipation	1	12.5
Diarrhoea	3	37.5
Rectal Bleeding	1	12.5
Unintentional Weight Loss	4	50
Nausea	1	12.5
Vomiting	2	25

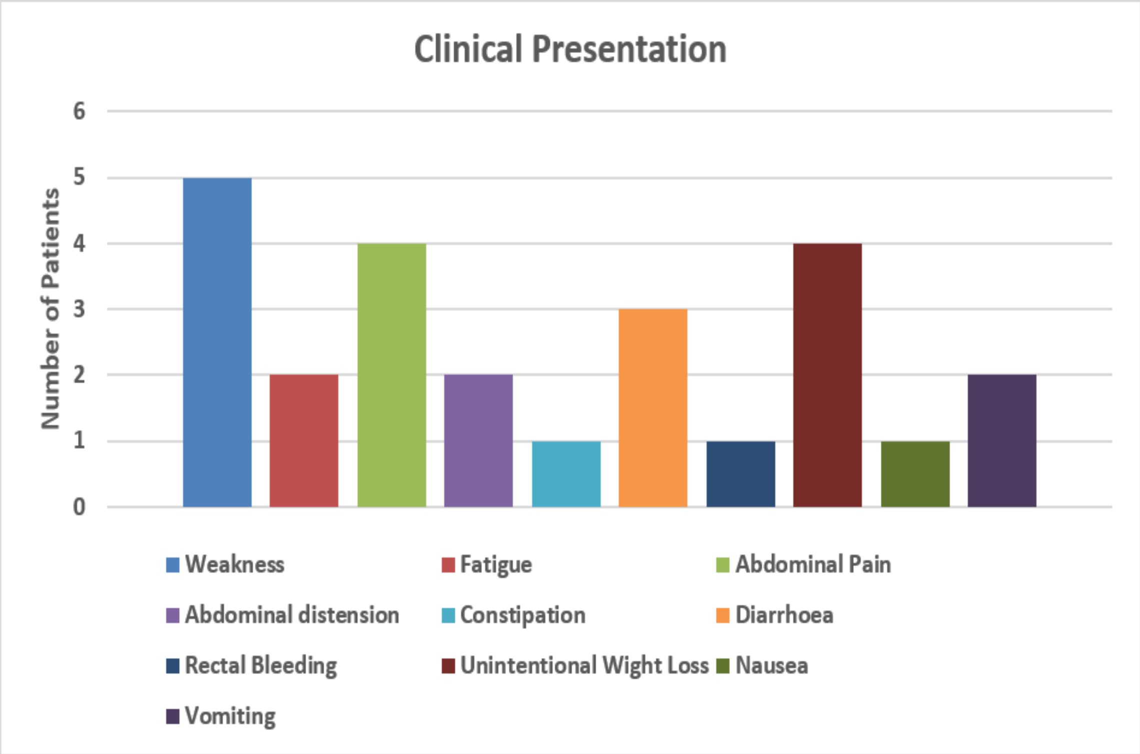

Figure 6: Clinical Presentation in Colorectal Adenocarcinoma

The clinical presentation varied, with weakness being the most common symptom, reported by 62.5% of the cases. Abdominal pain and unintentional weight loss were noted in 50% of patients, while symptom such as diarrhoea was reported in 37.5% of the cases.

Fatigue, abdominal distension and vomiting were each reported in 25% of the cases. Less frequent symptoms included constipation, nausea, and rectal bleeding, each occurring in 12.5% of patients.

Investigations: Blood picture showed normocytic and normochromic anaemia. Computed tomography (CT) of the abdomen plays an important role in both pr treatment staging of disease, as well as assessing for response to treatment. CT commonly revealed focal thickening of the bowel wall and luminal narrowing / a diffuse circumferential soft tissue thickening / a heterogeneously enhancing soft tissue mass with calcification. CT can be considered to be more efficacious for nodal and metastases (N and M) staging than for T staging. Colonoscopy revealed a large stenotic mass which showed obstruction and narrowing of the colonic lumen. Scope could not be negotiated beyond growth. Biopsy is required for the diagnosis of malignancy. In all our eight cases, colonoscopy biopsy revealed adenocarcinoma.

Table 7: Surgical Procedures (n=8)

Surgical Procedure	Number of Cases	Percentage
Anterior resection	3	37.5
Right hemicolectomy	2	25
Left hemicolectomy	1	12.5
Right /mid transverse colectomy	2	25

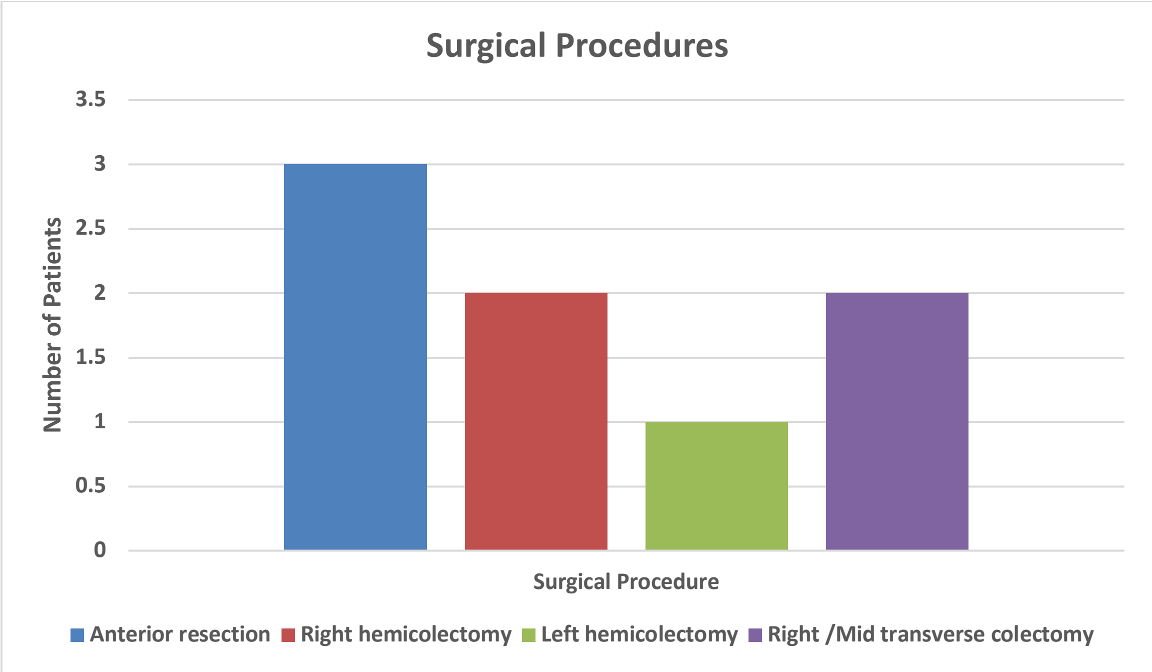

Figure 7: Surgical Procedures

A variety of surgical interventions were documented. Exploratory laparotomy alongwith anastomosis of healthy gut was performed in all the cases associated with : anterior resection was done in 3 patients (37.5%), right hemicolectomy and transverse colectomy in 2 patients (25%), while left hemicolectomy was done in 1 patient) 12.5%).

Table 8: Site of Tumors (n=8)

Site	Number of Cases	Percentage
Recto-sigmoid	2	22.2
Sigmoid colon	2	22.2
Ascending colon	2	22.2
Transverse colon	2	22.2
Descending colon	1	11.2

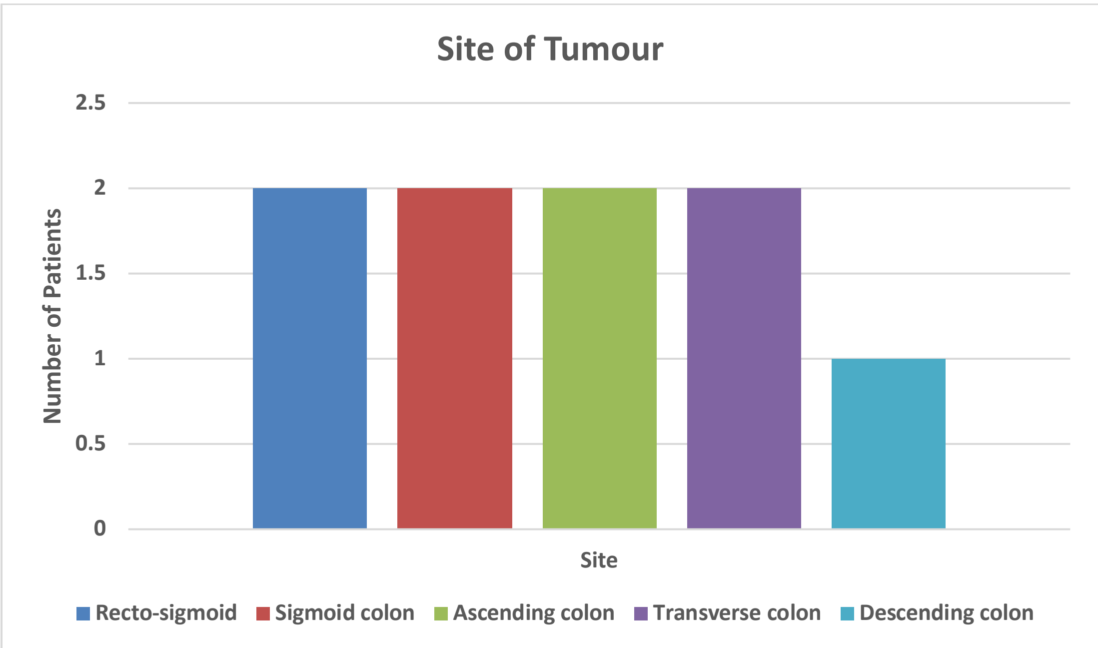

Figure 8: Site of Tumour

The tumours were located in various parts of the colon. Three patients (37.5%) each had a tumour in the sigmoid colon and also three patients (37.5%) each had a tumour in the ascending colon.

One patient (12.5%) each had a tumour in the descending colon and mid-transverse colon.

Gross features:

On colonoscopy - Ulceroproliferative growth was seen. Scope could not be negotiated beyond growth

Surgical resection – Ulcero-invasive nodular circumferential constricting growth/annular fungating growth / polypoidal growth were reported.

Microscopy:

Colonoscopic biopsy – Sections studied showed colonic mucosa displaying ulceration with dysplasia. Granulation tissue formation and necrosis along with malignant cells are seen infiltrating into muscularis mucosa in vague acinar pattern, solid nests and in singles.

Individual cells contain moderate cytoplasm, high n:c ratio, pleomorphic hyperchromatic nuclei with prominent nucleoli.

Brisk mitosis seen. Lamina propria and muscularis mucosa is infiltrated by plenty of mixed chronic inflammatory cells.

Resected specimen biopsy report – The adenocarcinoma originating from epithelial cells of the colorectal mucosa is characterised by large neoplastic cells with nuclear pleomorphism and hyperchromasia. The tumour cells attempt to make glandular structures. Conventional adenocarcinoma is characterized by glandular formation, which is the basis for histologic tumour grading.

- Well differentiated: >95% of the tumour is gland forming, well-formed glands or simple tubules with uniform, basally oriented nuclei
- Moderately differentiated: 50-95% gland formation is present, tubules may be simple, complex or slightly irregular with loss of nuclear polarity.
- Poorly differentiated: is mostly solid with less than 50% gland formation, majority of tumour (excluding advancing edge) consists of sheets of cells without gland formation.

Tumour invades through muscularis propria into pericolonic tissue.

In our eight cases, adenoma involved in malignancy: tubular adenoma -1, villous adenoma-1, tubulovillous adenoma -2

In the signet ring cell type of adenocarcinoma – malignant cell showed cytoplasmic vacuoles with signet ring cell morphology.

Table 9: Histopathological Diagnosis (n=8)

Diagnosis	Number of Cases	Percentage
Moderately differentiated adenocarcinoma	6	75%
Well differentiated adenocarcinoma	1	12.5%
Poorly cohesive carcinoma (signet ring)	1	12.5%

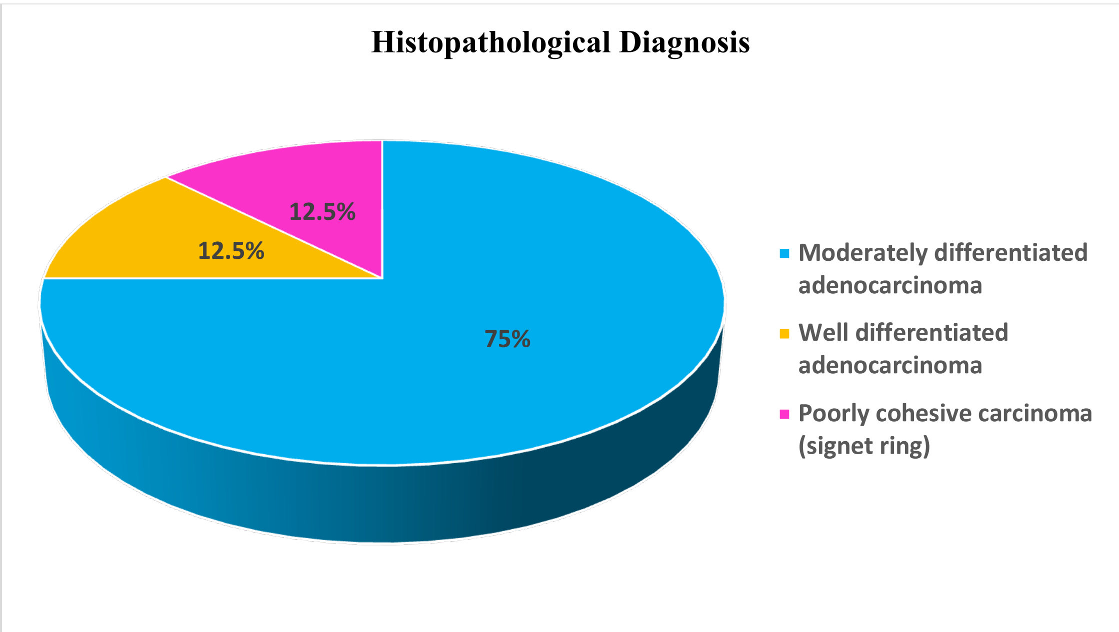

Figure 9: Histopathological Diagnosis

The histopathological analysis showed that six patients (75%) had moderately differentiated adenocarcinoma, one patient (12.5%) had well differentiated carcinoma and one patient (12.5%) had poorly cohesive carcinoma (signet ring cell type), indicating a predominance of moderately differentiated tumours.

Table 10: Grade of Tumours (n=8)

Grade	Number of Cases	Percentage
G1	1	12.5%
G2	6	75.0%
G3	1	12.5%

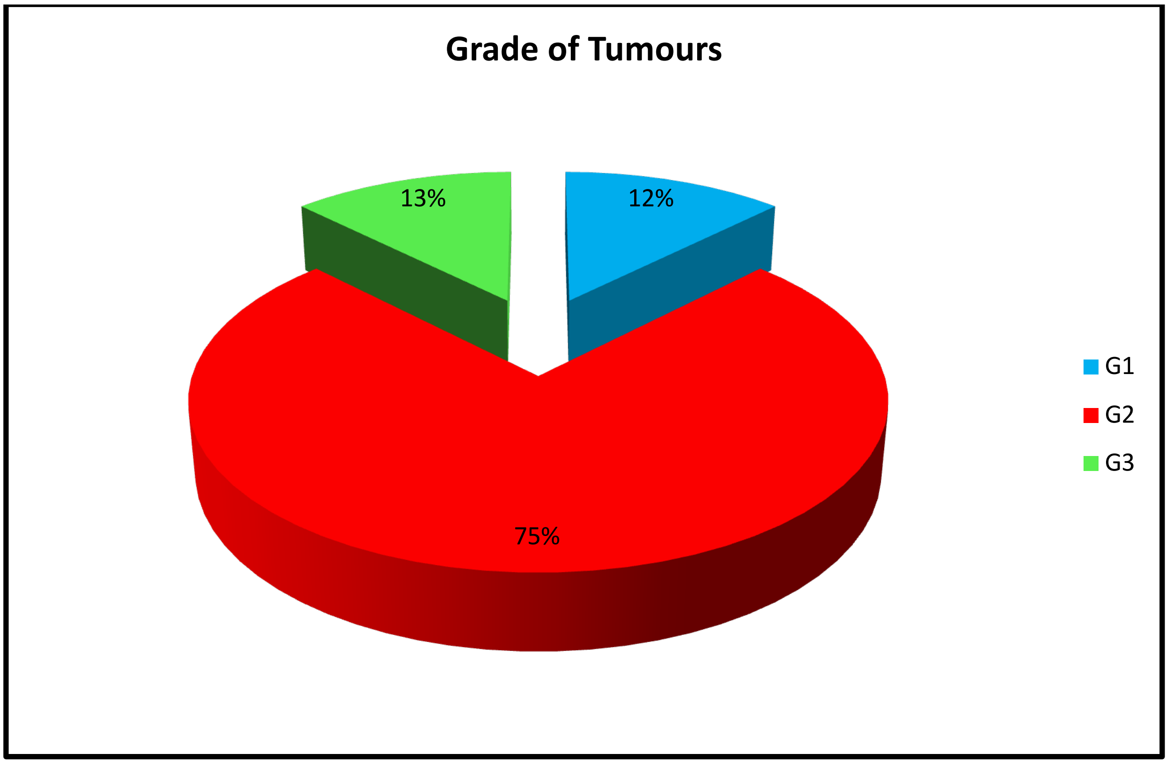

Figure 10: Grade of Tumours

Regarding tumour grading, most tumours were classified as Grade 2 (G2), found in six patients (75%), indicating moderate differentiation. One patient (12.5%) had a well-differentiated carcinoma (Grade 1, G1), and one patient (12.5%) had a poorly cohesive signet ring cell carcinoma (Grade 3, G3), showcasing the variability in tumour differentiation within the cohort.

Table 11: Stage of Tumours (n=8)

Stage	Number of Cases	Percentage
II A	3	37.5%
II B	1	12.5%
III B	3	37.5%
III C	1	12.5%

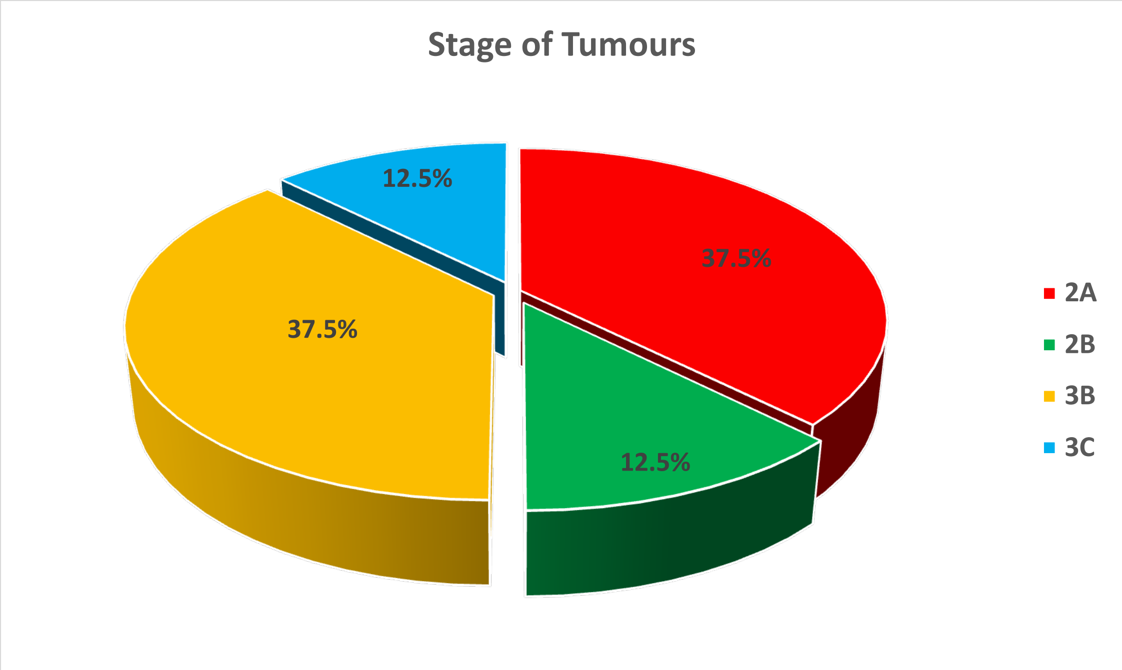

Figure 11: Stage of Tumours

Regarding tumour staging, three (37.5%) tumors were classified as Stage II A and three (37.5%) tumours were classified as Stage III B. Stage II B and Stage III C were noted in one (12.5%) patient each, showcasing the variability in tumour staging within the cohort.

Table 12:

Findings	No. of cases
Margin involvement	3 (37.5%)
Lymphovascular invasion (LVI)	5 (62.5%)
Perineural invasion (PNI)	7 (87.5%)
Macroscopic tumour perforation	3 (37.5%)

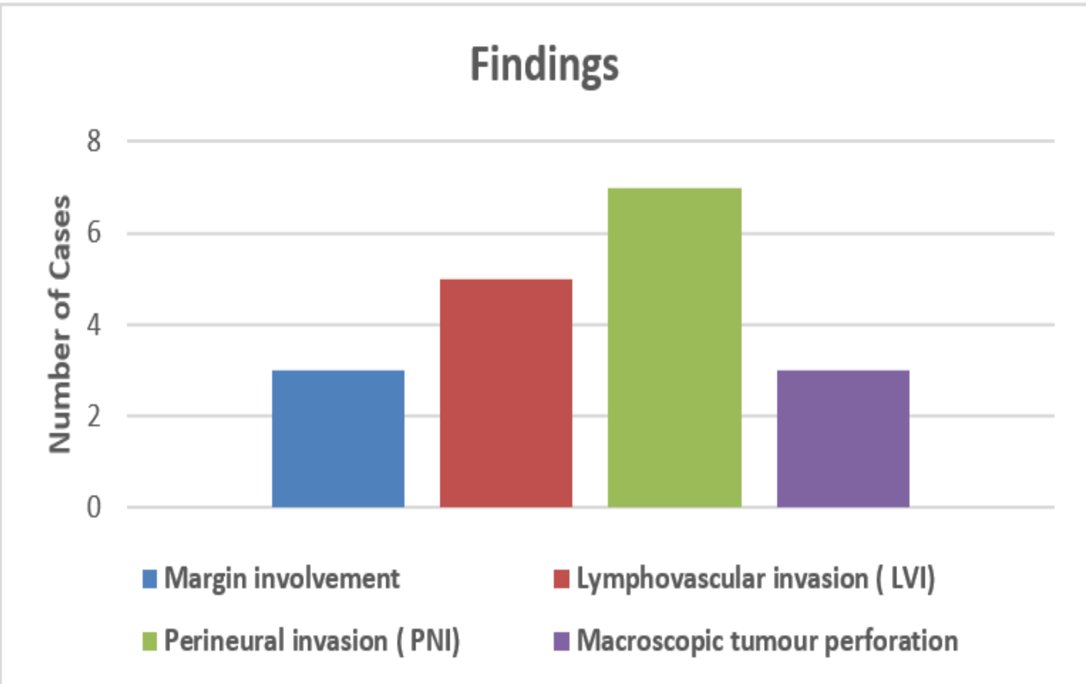

Figure 12: Findings

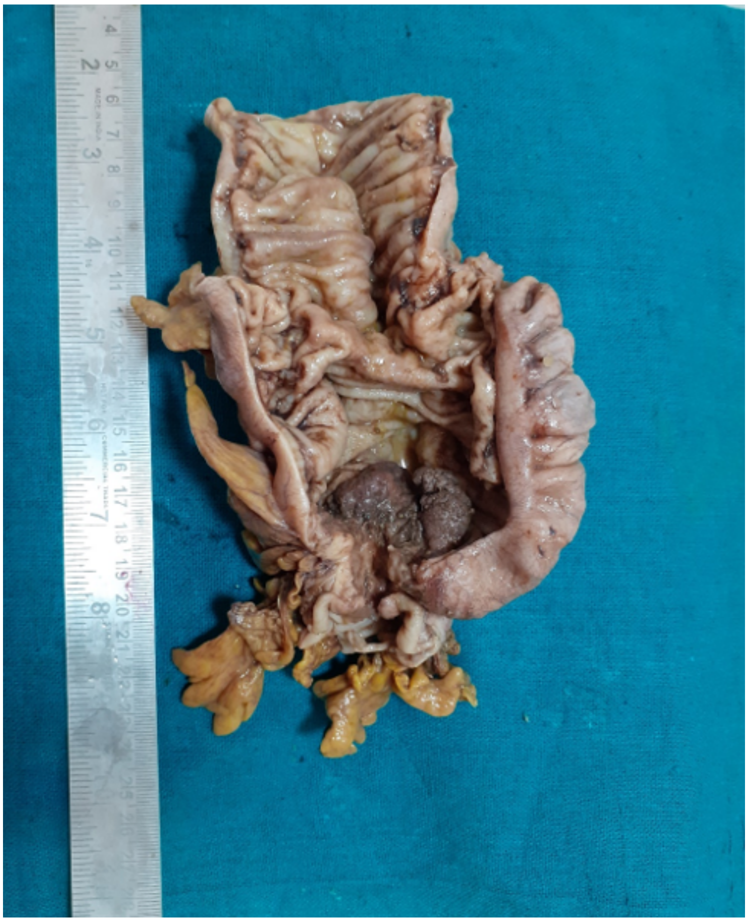

Figure 13: Growth in colon

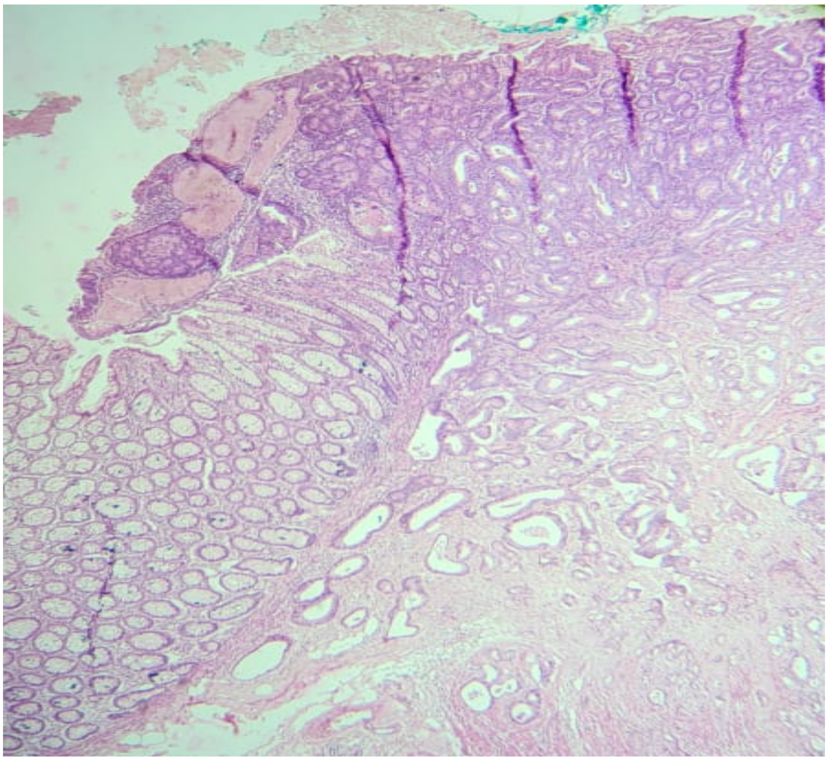

Figure 14: Well differentiated adenocarcinoma (H & E stain)

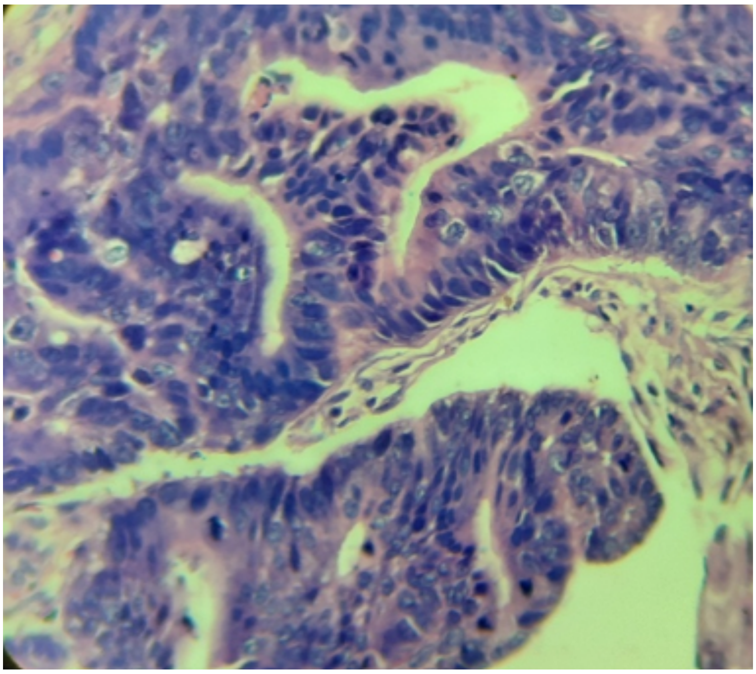

Figure 15: Moderately differentiated adenocarcinoma (H & E stain)

Discussion

In this case series, the age distribution shows a predominance of patients aged 41-60 years, which mirrors findings in larger studies where colon adenocarcinoma typically presents in older adults, with incidence peaking in the sixth decade of life. For instance, a large-scale epidemiological study by Siegel et al (2020) [6] noted a similar age distribution, reinforcing the observation that colorectal cancer is primarily a disease of middle to older age groups. Regarding gender distribution, our study noted a higher prevalence among males (62.5%), which is similar with general epidemiological data where colon cancer is more common in males.

Our findings suggest that 75% of patients followed a mixed diet, and this aligns with broader epidemiological data that imply a diet high in red and processed meats is linked to increased colon cancer risk. The variation in dietary habits may influence the pathogenesis of colorectal adenocarcinoma due to differences in gut microbiota and dietary carcinogens. The distribution of religion reflects demographic characteristics of the population studied and does not directly correlate with disease incidence but may influence dietary habits and thus indirect risk factors. The clinical presentation observed, predominantly weakness, abdominal pain, unintentional weight loss and diarrhoea aligns with symptoms reported in larger cohorts. For example, a review by Atkin et al. (1992) highlights that these symptoms are often indicative of later stages of tumour progression, which necessitates early screening and diagnosis for better prognostic outcomes.

The variety in surgical interventions and tumour sites within our study reflects the personalised approach to colon cancer treatment, which is dependent on the tumour's location and stage at diagnosis. The preference for exploratory laparotomy in our cases aligns with practices in emergent cases where full access to the abdomen is required, as noted by Wolf A et al (2023)[8] in their study on surgical approaches to colon cancer. The predominance of moderately differentiated adenocarcinoma (87.5%) observed in our study is consistent with global observations where moderately differentiated tumors are most common. The presence of a signet ring cell carcinoma, which is rare and more aggressive, suggests heterogeneity in tumor biology among patients. This aligns with findings from O'Brien et al.(2008) [9], who reported varying prognoses associated with histopathological variants of colon adenocarcinoma.

The grading of tumours in our cohort, with most classified as Grade 2, indicates a moderate level of differentiation which is typical and associated with a better prognosis than poorly differentiated tumors. This grading is important for therapeutic decision-making and prognostic evaluation, as discussed in the clinical guidelines by the American Cancer Society. Staging is very specific for resected gut specimens and is important for further management and prognosis assessment.

Conclusion

Our study on “Adenocarcinoma of Colon and Rectum in Adults– An Institutional Case Series" highlighted several key findings about the demographic, clinical, and pathological characteristics of colorectal adenocarcinoma in a small, diverse cohort. The age distribution confirmed that colon adenocarcinoma predominantly affects middle-aged to older adults, with a significant representation of cases in individuals aged 41-60 years.

The diversity in dietary habits, with a majority on a mixed diet, underscores the potential influence of diet on colon cancer risk. Clinical presentations were in line with established symptoms of colorectal adenocarcinoma, including weakness, abdominal pain, unintentional weight loss and diarrhoea, affirming the importance of these symptoms in suspecting and diagnosing colon cancer. Surgical management varied widely, reflecting the tailored approach to treatment based on tumour specifics like location and stage. The majority of tumours were moderately differentiated, which is consistent with the general prognosis outlook of colon adenocarcinoma. The grading and the staging detailed histopathological evaluation emphasise the necessity of meticulous pathological assessment to guide treatment planning and prognostic evaluation.

Our study adds to the understanding of colorectal adenocarcinoma's clinical and pathological spectrum and highlights the importance of a comprehensive approach to diagnosis and management. The findings also underscore the need for further research into the regional and gender-related differences in the epidemiology of colorectal adenocarcinoma to better tailor prevention and treatment strategies.

References

1. Siegel RL, Miller KD, Jemal A. Cancer statistics, 2020. CA: A Cancer Journal for Clinicians, 2020; 70(1):7-30.
2. Johnson CM, Wei C, Ensor JE, Smolenski DJ, Amos CI, Levin B, Berry DA. Meta-analyses of colorectal cancer risk factors. Cancer Causes & Control, 2013; 24(6):1207-1222.
3. Fearon ER, Vogelstein B. A genetic model for colorectal tumorigenesis. Cell, 1990; 61(5):759-767.
4. Amin MB, Greene FL, Edge SB, et al. The Eighth Edition AJCC Cancer Staging Manual: Continuing to build a bridge from a population-based to a more "personalized" approach to cancer staging. CA: A Cancer Journal for Clinicians, 2017; 67(2):93-99.
5. O'Connell JB, Maggard MA, Ko CY. Colon cancer survival rates with the new American Joint Committee on Cancer sixth edition staging. Journal of the National Cancer Institute, 2004; 96(19):1420-1425.
6. Siegel RL, Miller KD, Goding Sauer A, Fedewa SA, Butterly LF, Anderson JC, Cercek A, Smith RA, Jemal A. Colorectal cancer statistics, 2020. CA: a cancer journal for clinicians. 2020 May; 70(3):145-64.
7. Atkin WS, Morson BC, Cuzick J. Long-term risk of colorectal cancer after excision of rectosigmoid adenomas. New England Journal of Medicine. 1992 Mar 5; 326(10):658-62.
8. Wolf A, Oeffinger KC, Shih TY, Walter LC, Church TR, Fontham ET, Elkin EB, Etzioni RD, Guerra CE, Perkins RB, Kondo KK. Screening for lung cancer: 2023 guideline update from the American Cancer Society. CA: A Cancer Journal for Clinicians. 2023.
9. O’Brien MJ, Yang S, Huang CS, Shepherd C, Cerda S, Farraye FA. The serrated polyp pathway to colorectal carcinoma. DiagnostiC histopathology. 2008 Feb 1; 14(2):78-93.