



## THE SPECTRUM OF COLONIC LESIONS: A CLINICOPATHOLOGICAL STUDY OF COLONIC BIOPSIES IN A TERTIARY CARE HOSPITAL

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### ABSTRACT

**INTRODUCTION:** The Colonic lesions often require colonoscopic biopsy for their conclusive diagnosis. The biopsy may provide the information required to establish perfect diagnosis of the main responsible cause of lesion. HPE of colonic mucosal biopsies when correlated with clinical findings help in definite diagnosis and early treatment of patients with colonic lesions.

**METHODS:** colonoscopic biopsies received by Department of Pathology from January 2017 to December, 2017.

**RESULTS:** A total of 150 colonoscopic biopsies were analyzed, which included 84 males and 66 females. There were 103 (68.66%) cases of non-neoplastic lesions, 42 (28%) cases of neoplastic lesions and 5 (3.33%) cases of inadequate biopsies. Among 103 cases of non-neoplastic lesions, 46 (44%) were non-specific colitis, 10 (10%) ulcerative colitis, 5(5%) non-specific proctitis, 8 (8%) inflammatory polyp, 4 (4%) hyperplastic polyp, 5 (5%) hirschprung's disease, 4 (4%) rectal ulcer, 1 (1%) tuberculosis and 20 (19%) of non-significant pathology.

Out of 42 cases of neoplastic lesions, 25 (59.25%) were adenocarcinoma, 2 (4.76%) mucin secreting were adenocarcinoma, 2 (4.76%) signet ring cell and 13 (30.95%) were colonic adenoma.

**CONCLUSION:** Colonic mucosal biopsies play a crucial role in specific diagnosis of patients with inflammatory bowel disease and early detection of colonic tumors. This study emphasizes that non-specific colitis is more common among non-neoplastic lesions.

**KEYWORDS :** Colitis, Adenoma And Adenocarcinoma

### INTRODUCTION

The lower gastrointestinal tract is affected by various inflammatory and neoplastic lesions, with different clinical findings and management. A spectrum of acute and chronic conditions have been encountered in the colon<sup>[1]</sup>. The Colonic lesions like polyps, idiopathic inflammatory disorders, infections, motility disorders and colorectal tumours are important lesions which often require colonoscopic biopsy for their conclusive diagnosis<sup>[2,3]</sup>. The biopsy may provide the information required to establish perfect diagnosis of the main responsible cause of lesion<sup>[4]</sup>. One of the leading cause of morbidity and mortality is colorectal carcinoma, with overall cancer incidence rate of 9%<sup>[5,6]</sup>. Colonic mucosal biopsies procured from colonoscopy plays a crucial role in specific diagnosis of patients with inflammatory bowel disease and early detection of colonic epithelial tumours. HPE of colonic mucosal biopsies when correlated with clinical findings help in definite diagnosis and early treatment of patients with colonic lesions.

### AIM AND OBJECTIVE:

To study the clinical profile and histopathology of various lesions in colonoscopic biopsies. **METHOD:** The present study was retrospective study done in the department of pathology in tertiary care center over a period of one year from January 2017 to December 2017. One hundred and fifty cases were studied. Clinical details, laboratory investigations and colonoscopic findings were obtained. All the colonoscopic biopsy specimens were collected and detailed study of the sections were done under light microscope.

### RESULTS AND OBSERVATIONS:

Total 150 cases were collected. Among 150 cases non-neoplastic were 103 cases (68.66%), neoplastic lesion 42 cases (28%) and inadequate biopsies 5 cases (3.33%). There were 84 male patients (56%) and 66 female patients (44%).

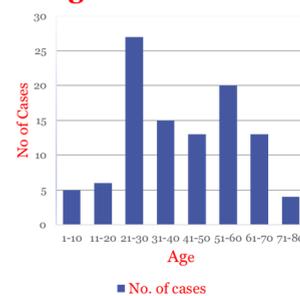
In the present study, the most common clinical feature with which the patients presented was found to be bleeding per rectum in 65 cases (43.33%), constipation in 47 cases (31.33%), followed by diarrhoea were 38 (25.33%) as shown in Table no 1.

In our study the age range was observed to be wide, from youngest aged 1 years to oldest aged 80 years. Majority of cases were seen between 21-30 years of age group, having 27 cases as shown in Figure 1.

**Table 1: Clinical profile of cases in our study.**

Clinical Features	No. of cases	Percentage %
Bleeding PR	65	43.33%
Constipation	47	31.33%
Diarrhoea	38	25.33%

### Age Distribution

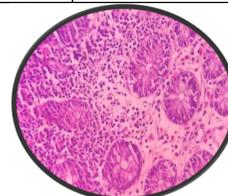


**Figure 1: Age wise distribution in our study.**

In our study 103 cases were non-neoplastic and 42 cases were neoplastic and the spectrum of histological and microscopic findings is mentioned in table 2 and figures 2-7. Among the non-neoplastic lesions the most common one seen in our study was non-specific colitis (43%) and most common neoplastic lesion was adenocarcinoma (59.25%).

**Table 2: Distribution of non-neoplastic lesions**

Non-neoplastic lesion	No. of cases	Percentage
Non-specific colitis,	45	43%
Ulcerative colitis	11	10%
Non-specific proctitis	6	5.25%
Inflammatory Polyp	8	7.76%
Hyperplastic polyp	4	3.88%
Hirschsprung's Disease	5	4.85%
Rectal ulcers	4	3.88%
Tuberculosis	1	0.97%
Nonsignificant Pathology	19	18.44%



**Figure 2: Non-specific colitis showing dense chronic inflammatory cell infiltrate (H&E 40x)**

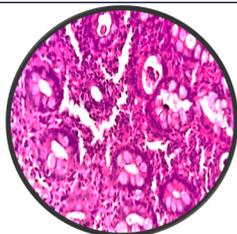


Figure 3: Ulcerative colitis showing crypt abscess (H&E 10X)

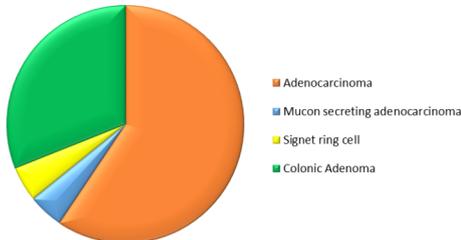


Figure 4 : Distribution of Neoplastic lesions in our study.

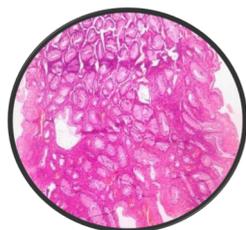


Figure 5: Tubuloadenoma (H&E 10X)

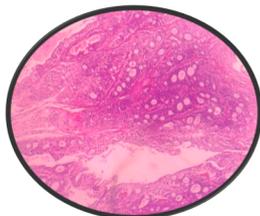


Figure 6: Well differentiated Adenocarcinoma (H&E 4X)

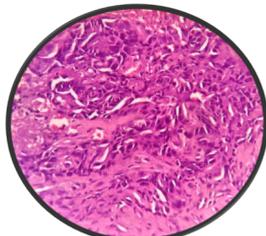


Figure 7: Poorly differentiated Adenocarcinoma (H&E 40X).

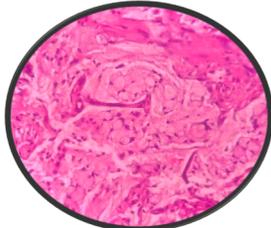


Figure 8: Signet ring cell carcinoma (40x).

**DISCUSSION:**

This study evaluates the clinicopathological features of colonoscopic biopsies done in our region.

The spectrum of colonic lesions span from infectious, idiopathic, inflammatory diseases, polyps, motility disorders and colorectal tumours. All these lesions usually requires colonoscopic biopsies for their conclusive diagnosis<sup>1</sup>.

**NON-NEOPLASTIC LESIONS:**

In the present study, among the non-neoplastic lesions, nonspecific colitis was found to be commonest lesion seen in 45 cases (44%), studies done by Karvel HS et al<sup>1</sup>, Deshpande V et al<sup>7</sup> and Abilash S C et al<sup>8</sup> showed the same findings.

Ulcerative colitis though rare is an emerging disease in India, this condition portrays remissions and relapses. In the present study ulcerative colitis was found to be the second commonest non neoplastic lesion observed in 11 cases (10%) which was similar to studies done by Chandrakumari et al<sup>9</sup> and Qayoom et al<sup>10</sup>. Hyperplastic polyp was seen in 4 cases (3.88%) which was similar to a study done by Karvel HS et al<sup>1</sup> and Rajbhandari M et al<sup>11</sup>.

**BENIGN LESIONS:**

All cases of benign neoplastic lesions were diagnosed as colonic adenomas. Tubular adenoma (85.72%) outnumbered all colonic adenomas and remaining cases (14.28%) were tubulovillous adenoma and were common in the age range of 50 – 70 years and the commonest site of occurrence was rectosigmoid region. These findings were similar to the studies done by Abilash S C et al<sup>10</sup>.

**MALIGNANT LESIONS:**

Colorectal cancer is the third prevalent cancer in men and women. Although distributed worldwide, incidence is higher in industrialized and western countries. Colorectal cancer is generally a disease affecting individuals, 50 years of age or older. In recent years, we have observed an increased incidence of colorectal cancers in younger age group.<sup>1</sup>

In the present study, all malignant lesions were diagnosed as adenocarcinoma. Majority of the cases presented with bleeding per rectum, abdominal pain and constipation. The most common site was rectum followed by sigmoid colon. Other studies done by Karvel HS et al<sup>1</sup> and Pandey MS et al<sup>12</sup>. In the present study, out of 42 malignant lesions, 10 cases (40%) were well differentiated adenocarcinomas, 9 cases (36%) were moderately differentiated adenocarcinomas, 6 cases (24%) were poorly differentiated adenocarcinoma.

Various studies done on colonic biopsies showed similar results as ours described in Table 3.

**Table 3: Comparison of various similar studies with present study.**

Case Details	PRESENT STUDY (2019)	CHANDRAKUMARI AS et al <sup>9</sup> (2017)	PANDAY MS et al <sup>12</sup> (2016)	QAYUUM et al <sup>10</sup> (2011)
M:F	1.27:1	2.1:1	1.76:1	Male predominance
NON-NEOPLASTIC	68%	60.8%	73%	67%
NON-SPECIFIC COLITIS	30%	28.4%	55.5%	25%
ULCERATIVE COLITIS	6.6	15.2%	8.3%	17.15%
NEOPLASTIC	28%	39.2%	24%	21%
TUBULAR ADENOMA	8.6%	15.2%	4.6%	9.1%
ADENOCARCINOMA	22%	21.6%	19.4%	13.22%

**CONCLUSION**

Large intestine is affected by a long array of non-neoplastic and neoplastic lesion with colon being the most common site among non-neoplastic lesion and recto sigmoid colon in neoplastic lesion. In Neoplastic lesions, adenocarcinoma is more common in advanced age though it was observed that there is increased incidence of colorectal carcinomas among young and middle aged adults. Biopsy helps in the diagnosis of various non-neoplastic lesions and adenomatous polyps, which have a malignant potential. Thus, histo pathological findings of colonic mucosal biopsies along with clinical correlation plays an important role in the diagnosis, management and follow up of patients with colonic lesions.

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