Volume : 5 | Issue : 9 | September 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

Original Research Paper

Evaluation of Lower Gastrointestinal Biopsy in Non-Neoplastic Diseases

Medical Science

KEYWORDS : Lower gastrointestinal bleed, Non neoplastic disease, colonoscopy

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ABSTRACT

Introduction: *Worldwide digestive diseases are common in population. Digestive disorders can range from mild to severe, from acute to chronic and benign or malignant.* ***Aim and Objectives****: The aim and objectives of the study is to study incidence of various non-neoplastic lesions of lower gastrointestinal colonoscopic biopsy and correlating with histopathology study. Material and methods: The study of 141 cases was carried out in department of Pathology,IMS&SUM Hospital,Bhubaneswar.* ***Results****: There was higher incidence of inflammatory bowel disease, juvenile polyps.* ***Conclusion****: Incidence of males being affected with ulcerative colitis, juvenile polyps was more compared to females and the lesions were more commonly located in rectum.*

Introduction:

Digestion is a complex process from mouth to anus, combining anatomic, mechanical, hormonal, enzymatic, neurologic factors. Although multiple factors affect the food behaviour: ethnicity, geography, environment, race, but the most important are availability hygiene and quality of food in order to obtain a well balanced diet.

The lower gastrointestinal (GI) tract can be evaluated by means of lower GI endoscopy (anoproctosigmoido colonoscopy), and the lower GI series can be evaluated with radiologic contrast media (e.g., barium, diatrizoatemeglumine and diatrizoate sodium [Gastrografin], and fluoroscopy). Late films of a barium follow-through study may also show the lower GI tract. Reconstruction of CT scans (CT colonography) gives as good an inside view of the colon as does colonoscopy (virtual colonoscopy). Magnetic resonance imaging (MRI) is very good for evaluation of the anorectum. Ultrasonography is not useful for evaluation of the lower GI tract, but endoscopic ultrasonography (EUS) is useful for evaluation of the anorectum.

A variety of inflammatory disorders may affect the small intestine and colon, with widely differing clinical outcomes and management. These conditions encompass a spectrum of acute and chronic conditions. The non-neoplastic conditions of lower gastrointestinal tract are colitis of various etiology, celiac disease, irritable bowel syndrome, inflammatory bowel disease, diverticular disease, benign polyps .

Recognition of specific histologic features or a combination of features coupled with clinical and endoscopic data allows for accurate classification in the majority of cases. Colonoscopy is the next important step and the objective is to study the whole colon. Apart from determining the histology of a given lesion, the state of the rest of colon, mucosal polyps, adenoma etc. should be carefully recorded and histopathlogy study done.

In some cases, the necessary clinical and/or endoscopic information may not be available and pathologists will have to do the best they can to describe the abnormalities seen.

Materials and methods

The present study is a prospective study entitled was undertaken in the Department of Pathology, in collaboration with the colonoscopy unit, Departmentof Gastroenterology, Institute of medical sciences & SUM Hospital, Bhubaneswar with lower gastrointestinal symptoms were taken in to the study.

The inclusioncriteria of the study was that the patients of either sex were selected irrespective of age group,patients presenting with lower gastrointestinal signs and symptoms and patients with visible lower gastrointestinal mucosal lesions.

The Exclusioncriteria were patients refusing consent, uncooperative patients, patients with perforated viscus, patients with a recent myocardial infarction (within 30 days) and patients with acute diverticulitis.

The Patient's ID, age, sex and reporting Date were taken. The history of present complaints: Abdominal pain / Dysphagia/ Vomiting/Retrosternal pain/Anorexia/Loss of weight/Mass abdomen/ Diarrhea / Constipation/ Melena/ Perianal bleeding/ Any other findings with duration were noted. Past History, Diet History: Veg / Non-veg / Smoked / Fried / Preserved food, Personal History: smoking /Alcohol / Any other, Drug history and Family History were taken.

In the clinical examination: General examination: General build/Pallor / Icterus/ Cyanosis/Pedal edema/ any other findings, Lymph node: supraclavicular/ axillary/ cervical / Para umbilical/inguinalAbdominal examination: Epigastric tenderness / Palpable mass/ splenomegaly/ hepatomegaly and Other systemic examination were done.

Lower gastrointestional colonoscopy was done to find the Area of involvement: Terminal Ileum / Colon (ascending / transverse/ descending/ sigmoid/rectum.)

Results

Table 1: Distribution of age and sex in Lower Gastrointestinal Tract (GIT) Lesions

Age (Yr)	Males		Females		Total	
	n	%	n	%	n	%
0-20	10	7.09	9	6.38	19	13.47
21-40	17	12.05	15	10.63	32	22.68
41-60	38	26.95	26	18.43	64	45.38
61-80	13	9.21	10	7.09	23	16.30
>80	3	2.12	0	0	3	2.12
Total	81	57.42	60	42.53	141	100

Table 1: In this study the wide range was covered from 2 year to 85 years. Maximum number of patient's colonoscopy evaluation belong to 41-60 years of age group in both

Volume : 5 | Issue : 9 | September 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

sex together with mean age of 45 and the sex ratio is 81:60

2: Histopathology findings in various lesions of lower GIT

HPS	No of Patients	%
NONSPECIFIC ILETIS	9	6.38
OTHER COLITIS (infective, pseudo membranous, melanosis coli)	8	5.67
COLITIS(A. Colitis, Chr. Active, Chr. Inactive, Indeterminate, UC, CD)	55	39.01
INTESTINAL TUBERCULOSIS	6	4.25
SOLITARY RECTAL ULCER SYNDROME	7	4.96
PROCTITIS	20	28.36
FISTULA-IN-ANO	3	2.12
COLORECTAL POLYP	33	23.40
Total	141	100.00

Table 2: Out of 141 cases the number of patients suffering from colitis is 39.01% followed by proctitis 28.36% & non-neoplastic polyp 23.40%.

Table 3: Distribution ofIdiopathic inflammatory bowel disease (IBD).(n=55)

AGE GROUP	ACUTE COLLITIS (n=17)		CHRONIC ACTIVE COLITIS (n=13)		CHRONIC INACTIVE COLITIS (n=04)		INDETERMINATE COLITIS (n=05)		ULCERATIVE COLITIS (n=15)		CROHN'S DISEAES (n=01)	
	M (%)	F (%)	M (%)	F (%)	M (%)	F (%)	M (%)	F (%)	M (%)	F (%)	M (%)	F (%)
<20 YRS	1 (1.8)	2 (3.6)	-	-	-	-	-	1 (1.8)	1 (1.8)	-	-	-
21-40 YRS	6 (10.9)	2 (3.6)	2 (3.6)	2 (3.6)	1 (1.8)	-	1 (1.8)	-	6 (10.9)	-	1 (1.8)	-
41-60 YRS	1 (1.8)	2 (3.6)	6 (10.9)	1 (1.8)	-	2 (3.6)	1 (1.8)	-	2 (3.6)	4 (7.3)	-	-
>=61 YRS	2 (3.6)	1 (1.8)	1 (1.8)	1 (1.8)	-	1 (1.8)	-	2 (3.6)	1 (1.8)	1 (1.8)	-	-
Total	10 (18.2)	7 (12.7)	9 (16.4)	4 (7.3)	1 (1.8)	3 (5.5)	2 (3.6)	3 (5.5)	10 (18.2)	5 (9.1)	1 (1.8)	-

M= MALE , F=FEMALE

Table 3: The table illustrates that among 55 cases of idiopathic inflammatory bowel disease, ulcerative colitis was 27.27%, Crohn's was only1.8%, indeterminate amounting to 9.1% and different stages of colitis(acute colitis ,chronic active & inactive) together constitute 61.7%. The age group commonly affected is 21-60 years in both sexes.

Table 4: Incidence of colorectal (non-neoplastic) polyps

TYPES OF POLYP	Nos. of Patients	%
Inflammatory Polyp	10	30.30
Hyperplastic Polyp	9	27.27
Hamartomatous Polyp	2	6.06
Juvenile Polyp	12	36.36
Total	33	100.0

Table 4: The incidence of juvenile polyp(36.36%) is highest among the group of non-neoplastic polyps.

Discussion:

Colonoscopy biopsy provides useful information for diagnosis of various lesions of lower gastrointestinal tract. The findings of the current study have been presented in tabular forms and analysis has been made. In this study, 141 patients were evaluated, majority of which were in the age group of 41-60 years, mean age being 45years and with a male predominance of about 57.42%, females about 42.53%. (Table no:1). This statistic conceded with that of Deo et al (2001)[1], whose study reported a mean age of presentation of 45.3years , Abulfalgha et al. (2008)[2], who reported male predominance 64% and mean age of presentation being 48.5years.Likewise Köseoğlu et al.(2011)[3], whose studies showed male patients more than females and mean age about 57years , so also Rajbhandhari M et al.(2013)[4]in his study indicated higher frequency of colonic disease in males with mean age of 52years and Hitesh Chirtodaet al. (2014)[5],whose findings showed males (58%) being more affected than females(42%).

In this study the maximum number of lesions were located in rectum (43.75%), followed by pan colon (28.75%), ascending colon and caecum (12.8%), rectosigmoid(6.25%), transverse colon (2.92%), terminal ileum (3.75%) and 1.25% cases in descending colon and anus. This observation correlated with the study of Portier et al.(1912)[6][64], who represented that colonic diseases were prevalent in left side, representing around 43%, Robert et al (2004)[7] and Sure et al(2011)[8],also concluded that left colon (60%)was affected more than right side.

The incidence of different lesions on colonoscopic biopsy of lower gastrointestinal tract depicted that inflammatory bowel disease (39.01%), non-neoplastic polyps (23.40%),proctitis (28.36%), other causes of colitis (5.67%), nonspecific ileitis lesions (6.38%), SRUS(4.96%) , intestinal tuberculosis (4.25%) and fistula in ano(2.12%).

The above findings corroborated with the following authors:Köseoğlu et al. (2012)[3], in his study had inflammatory bowel disease (16.3%), proctitis (6%), according to whom maximum incidence was found to be IBD followed by proctitis. Rajbandhari M et al.(2013) [4], whose study showed IBD(27%), non-neoplastic polyps(16.7%), and Serdar et al. (2014)[9], in his study found colitis (IBD with other nonspecific inflammation) was 50%, colorectal polyps (non-neoplastic and neoplastic) about 30%.

In the current study, idiopathic inflammatory bowel disease constituted (22.92%), of which ulcerative colitis was (27.27%), Crohn's disease (1.8%), indeterminate (9.1%) and the different phases of ulcerative colitis constituted with acute colitis (30.90%), chronic active colitis (23.63%) and chronic inactive colitis (7.27%).The diseases are found in the age group of 21-60 years with a male predominant. The study well correlated with that of Sood.A et al. (1999) [10], who in the state of Punjab,identified suspected cases of colitis as having Ulcerative colitis (16.0%) , infective colitis(18.04%), indeterminate colitis(3.05%) and no cases of Crohn's.

Quyang Q et al. (2006)[11], his study in other Asian countries indicated higher prevalence of ulcerative colitis (65%) than Crohn's disease (35%) in a year.

Odze R et al. (2003)[12], in his study done outside India ,

revealed that frequency of Crohn's disease (30-40%) which was more than ulcerative colitis(10%) and indeterminate colitSands BE et al.(2004)[13], in his study in western countries concluded that Crohn's disease affect most frequently female in the age group of 20-30years and ulcerative colitis in the 30-40years age group.

The study by Loftus EV et al. (2001)[14] ,reported higher prevalence of ulcerative colitis in Jewish people and United states than among Asians and Africans, incidence more in females, but disease presentation occur in 50-60years.

Often it is difficult to differentiate Crohn's disease from that of abdominal tuberculosis. The incidence of Crohn'sdisease in India is low as per the study of Anita FP et al (1986)[15]. In our case, only 1.8% constituted Crohn's disease and the commonest differential diagnosis was granulomatous inflammation affecting the gastrointestinal tract was tuberculosis, which constituted (2.5%). The final diagnosis was reached in histopathology findings of granuloma without caseation, pericryptal granulomatous inflammation in Crohn's disease. The basis of this diagnosis is also found in the studies of Pulimod AB et al. (2005)[16],based on the location of the lesion, a ileocecal region favoured tuberculosis along with stricture, where as distal colon location with fistula favouredCrohn's disease.Amarapukar DN et al. (2008)[17]andMakharia GK et al .(2010)[18], evaluated clinical, endoscopic and histological differentiation of Crohn's disease and intestinal tuberculosis. Blood in stool, weight loss, colitis and involvement of sigmoid colon were more in favor of Crohn's disease.

In the current study,incidence of non-neoplastic colorectal polyps , constituting about 13.75% of total cases, of which juvenile polyp are (36.36%) , inflammatory polyp(30%), hyperplastic(27%)and least hamartomatous(6%).

Conclusion:

This prospective study undertaken with total number of 141cases .The following conclusions were noted. Majority of the patients were in the age group of 41-60years , males to females ratio being 1.5:1. Most of the colonoscopic lesions were found in rectum (43.75%), followed ascending colon and caecum (12.08%), rectosigmoid (6.25%),terminal ileum(3.75%), transverse colon(2.92%), descending colon and anus (1.25%). Pan colon was sent in many colonoscopic biopsies with clinical diagnosis of IBD constituted 28.75% which was excluded from the group.

Non-neoplastic lesions constituted about two third of all cases. Commonest lesion being idiopathic inflammatory bowel disease(22.92%), of which ulcerative colitis (27.27%), Crohn's disease(1.8%), other colitis of infective etiology (5.8%), intestinal tuberculosis(2.5%), non-neoplastic polyps(13.75%), solitary rectal ulcer syndrome (2.92%) and proctitis(8.33%).

References:

1. Deo SV, Shukla NK, Srinivas G, et al. Colorectal cancers– experience at a regional cancer centre in India. Trop Gastroenterol 2001;22:83–6.
2. AbulfalghaF.Spectrum of the causes of lower gastrointestinal bleeding.Alsatil Journal.2008; 20:9-16.
3. Zikret Köseoğlu, Banu K, Umit B, Adnan K, Ayca A, llker U. Analysis of the Lower Gastrointestinal Bleeding in the Emergency Department. JAEM 2012;6-10.
4. Rajbhandari M, Karmaacharya A, Khanal K, Dhakal P, Shrestha R.Histomorphological Profile of Colonoscopic Biopsies and Pattern of colorectal carcinoma in KavreDistrict.KathmanduUniv Med J.2013; 43(3):196-200.
5. Hitesh Chitroda, Samir Shah, FirdusDekhaiya et al.diagnostic yields of colorectal Original article: A Prospective Study of 100 Case of Colonoscopic finding in a Patients of Colorectal Disorder . SEAJCRR.2014; sept-oct 3 (5) eISSN: 2319 – 1090
6. Stollman N, Raskin JB: Diverticular disease of the colon.TheLancet 2004,363:631-638.
7. Robert, M.E., Skacel, M., Ullman, T., Bernstein, C.N. Easley, K., Goldblum, J.R. Patterns of colonic involvement at initial presentation in ulcerative colitis : a retrospective study of 46 newly diagnosed cases. Am. J. Clin. Pathol.,2004a; 122, 94-9.
8. Ahmet T E, Mustafa S, Kader I., Colonoscopicpolypectomy results of gastroenterology unit, GastroenterolojiKlinigi, 2011.
9. SerdarYanik, AyseNeslinAkkoca et al. Evaluation of results of lower gastrointestinal endoscopic biopsy, Int J ClinExp Med 2014;7(12):5820-5825.
10. A Sood, V. Midha, N Sood, Incidence and Prevalence of Ulcerative which in Punjab , North India, Gul – 2003; Nov; 52 (ii): 1587-1590.
11. Quyang Q, ChoonJinOoi,KwongMingFock, Govind K Makharia, Khean Lee Gohetet al. Management consensus of inflammatory bowel disease for the Asia-Pacific region.J Gasteroenterol Hepatol 2006;21:1772-82.
12. Odze R Diagnostic problems and advances in inflammatory bowel disease.ModPathol. 2003 Apr;16(4):347-58
13. Sands BE. From symptom to diagnosis :clinical distinctions among various forms of intestinal inflammation.Gasteroenterology.2004;126:1518-1532.
14. Loftus EV Jr. Clinical epidemiology of inflammatory bowel disease: incidence, prevalence, and environmental influences. Gastroenterology 2004;126:1504–1517.
15. Anita FP. Crohn's conundrum in Indians. Indian j Surg.1986; 5:79-80.
16. Pulimood AB, Peter S, Ramakrishna B, Chacko A, Jeyamani R, Jeyaseelan L, Kurian G. Segmental colonoscopic biopsies in the differentiation of ileocoloc tuberculosi from Crohn's disease. J Gastroenterol Hepatol.2005; 20:688-696
17. Amarapukar DN,Patel ND, Rane PS. Diagnosis of Crohn's disease in India where tuberculosis is widely prevalent. World J Gastroenterol. 2008;14:741–6.
18. Makharia GK,, Srivastava S, Das P, Goswami P, Singh U, Tripathi M, Deo V, Aggarwal A, .Clinical, endoscopic, and histological differntiations between Crohn's disease and intestinal tuberculosis. Am J Gastroenterol.2010; 105:642-651.