ORIGINAL ARTICLE

Histopathological Analysis of 1000 Colorectal Biopsies in Two Years in Shaikh Zayed Hospital, Lahore

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ABSTRACT

Objectives: To document and analyse the histopathological changes in the colorectal biopsies from September, 2004 to September, 2006.

Materials and methods: One thousand endoscopic colorectal biopsies were received from the Gastroenterology unit of Shaikh Zayed Hospital, Lahore. These biopsies were examined by routine histopathology methods.

Results: A higher frequency of colonic disease in males with a male to female ratio of 1.1:1 and age range of 1.50 months to 80 years was observed. Histopathological analysis revealed mostly non-specific colitis (38.3%), followed by ulcerative colitis (11.8%), polyps (4.6%), colonic carcinoma (2.6%), solitary rectal ulcers (1.1%), infectious colitis including granulomatous, amoebic and fungal (0.7%). Miscellaneous lesions; melanosis coli, colonic aganglionosis and pseudomembranous colitis were also observed (0.9%).

Conclusions: The most prevalent lesion in this series was non-specific colitis (mild, moderate, severe) followed by ulcerative colitis, polyps and carcinomas. This histopathological analysis of colorectal biopsy is an essential tool for diagnosis and confirmation of clinically suspected cases and before proceeding to major treatment plans.

Keywords: Histopathology, biopsy, colitis

INTRODUCTION

The colorectal mucosa has a limited repertoire of responses to injury, and the similarity of pathological changes in ulcerative colitis, Crohn's disease and other intestinal inflammation causes considerable diagnostic confusion and uncertainty. Effective management, however, depends on accurate clinicopathological classification[1]. Specific histological features together with their distribution can reliably diagnose inflammatory bowel disease, distinguish Crohn's disease from ulcerative colitis and provides an estimate of the probability of the underlying disease being present[2].

Examination of colorectal biopsy specimen is a reliable method for diagnosing inflammatory bowel disease[3] though many factors lead to variation in biopsy interpretation between reporting histopathologists[4]. To determine the extent to which information obtained from sigmoidoscopy and biopsy performed as a routine might influence the diagnosis or management of patients[5].

Colonoscopic examination is important in the diagnosis and treatment of suspected colonic disease. It is a diagnosis of choice for patients with diarrhea. However, the value of colonoscopy combined with biopsy frequently is not realized. Colonoscopy has replaced radiology as the initial test of choice in many clinical situations. However macroscopic evaluation alone cannot always detect mucosal disease. The gastroenterologist and pathologist must work as a team. Accurate diagnosis depends on it[6].

We designed a non-interventional and descriptive study to document and analyse the histopathological changes in colorectal biopsies in two years duration. Study tried to relate with the sex predilection and also the frequency of different histopathological changes in colorectal biopsies.

MATERIALS AND METHODS

One thousand consecutive colorectal endobiopsy specimens were collected from the Department of Histopathology, Shaikh Zayed Hospital, Lahore. Duration of study was two years. Study design was non-interventional and descriptive. The biopsy specimens were fixed in 10% formalin. The routine Hematoxylin and Eosin stain is carried out for histopathological examination. However special stains like PAS, PAS-D, Ziehl Neilson, Alcian Blue were carried out where required for the confirmation of certain diagnoses.

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Data Analysis: Data analysis was carried out by SPSS 14. Frequency of lesions has been presented as percentages.

Distribution of biopsy specimen on the basis of histopathological analysis (n=1000)

Histopathological Analysis	=n	% age
Non–Specific Colitis	383	38.3
Ulcerative Colitis	118	11.8
Polyps	46	4.6
Colonic Carcinomas (Adenocarcinomas)	26	2.6
Solitary rectal Ulcer	11	1.1
Infections Colitis (Granulomatous+Amoeba+Fungus)	7 (4+1+2)	0.7
Miscellaneous (Melanosis coli+Colonic aganglionosis+Pseudomembranous colitis)	9 (1+7+1)	0.9
Mild to moderate degree of ileitis	347	34.7
Inconclusive	53	5.3

RESULTS

Distribution of cases on the basis of histopathological findings are documented in tabulated form which also includes the percentage of the specific interpretation. It was observed that most common cases were inflammatory; non-specific colitis 38.3% (n=383). This was followed by 11.8% cases of ulcerative colitis (n=118). Then 4.6% polyps (n=46) and Juvenile ulcerative polyps were more common than hamartomatous and adenomatous polyps. 2.6% (n=26) cases were of colonic carcinoma which were all adenocarcinomas with all; well, moderate and poor differentiation. 0.7% cases were of infectious colitis including granulomatous (n=4), amoebic (n=1) and fungal (n=2) which were confirmed on special stains.Granulomas proved to be tuberculous in origin. 0.9% (n=9) were of colonic aganglionosis (7), Melanosis coli (1), and Pseudomembranous colitis (1). 34.7% (n=347) biopsies were from ileum to rule out Crohn's disease which showed mild to moderate degree of inflammation. Remaining 5.3% (n=53) cases were inconclusive due to inadequate biopsy specimen.

DISCUSSION

Histological patterns reflect pathogenesis, severity and duration but not specific disease states unless etiological agents are also recognized. Few usually infectious, eitiological agents may be visible in tissue sections and produce symptoms without inducing histological changes in the mucosa. Most symptomatic disease finding in the colon is associated with inflammation.

In present study the most common histological pattern was chronic non-specific colitis followed by ulcerative colitis. By correlating these patterns with known causes of colonic inflammation, we provide guidelines to enhance the diagnostic value of colonoscopic samples. In the absence of epithelioid granulomas, microgranulomas and isolated giant cells; a diagnosis of Crohn's disease is based on the absence of histological criteria, favouring ulcerative colitis, as stated in the study by Berre NL et al. We did not have any biopsy specimen reflecting changes in the favour of Crohn's disease. Our study had the diagnosis of ulcerative colitis as second commoner histological pattern. Similar study was done by Qayyum A and Sawan SA in King Abdul-Aziz University Hospital, Jeddah in Saudi Arabia[7].Their results and observations are comparable to ours.

Therefore, histological examination of endoscopic colorectal biopsies is an effective method of distinguishing between subjects with chronic idiopathic inflammatory bowel disease and normality, but less good at distinguishing between ulcerative colitis and Crohn's disease[8].

The diagnoses of juvenile polyp is made on histological examination and sigmoidoscope has showed the macroscopic characteristics of a juvenile polyp and patient has no symptoms[9]. Then the laparotomy is an aggressive procedure for removal of such polyps. Similarly those who were diagnosed as infectious colitis were effectively treated with specific treatment regimen.

Therefore endoscopy should be a part of monitoring the activity of the disease and results of the therapy[10]. Now with advancement of molecular studies the progress being made in genetic, serological and imaging studies lead to more reliable phenotyping[11].

CONCLUSION

Thus we conclude from our study that most prevalent lesion in colorectal biopsies was non-specific colitis (mild, moderate and severe), more with a mild to moderate degree of inflammation, followed by ulcerative colitis, polyps and carcinoma. Besides these main lesions many miscellaneous lesions were also identified. Therefore this histopathological analysis of biopsies proved to be an essential tool for the diagnosis and confirmation of clinically suspected cases before proceeding to major vigorous treatment plans.

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