

ORIGINAL ARTICLE

The Histopathological Diagnosis of Ulcerative Colitis on Non-Neoplastic Colorectal Biopsies – An Audit

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ABSTRACT

Background: The gastroenterologists along with histopathologists are carrying out early diagnosis and surveillance of patients presenting with ulcerative colitis. A long term treatment and follow up by a gastrointestinal unit is needed in diagnosed cases of ulcerative colitis. As a part of quality assurance, this audit was done to analyze the consistency of diagnosis of ulcerative colitis on non-neoplastic colorectal biopsies and to compare audited results with originally diagnosed reports in cases of ulcerative colitis.

Material and Methods: The study was conducted in Histopathology department of Shaikh Zayed Hospital Lahore Pakistan. H & E stained slides of 500 diagnosed cases of ulcerative colitis were retrieved from the record in time period between February 2012 to June 2013. The cases were reviewed for three histological parameters i.e., architecture of epithelium, chronic and acute inflammation. The new observations were recorded in a specially designed proforma and compared with original reports.

Results: A definite diagnosis of ulcerative colitis in our study was proved correct in 100% of cases. Where the biopsy which was reported as suggestive of ulcerative colitis, 97.9% proved to have ulcerative colitis.

Conclusion: This audit concluded that diagnosis of colorectal biopsies with high suspicion of ulcerative colitis should be carried out on a proforma which clearly depicts all the relevant histological features that may be important to the histopathologists for diagnosis and to the gastroenterologist for clinical treatment. The clinical findings given by the physician was another area of improvement.

Key words: ulcerative colitis (UC), colorectal biopsies, architecture, inflammation.

INTRODUCTION

The histopathological evaluation of endoscopic colorectal biopsies is of great importance in distinguishing between normal and chronic idiopathic inflammatory bowel disease. There are number of conditions mimicking the clinical symptoms of chronic idiopathic inflammatory bowel disease and therefore, histopathological evaluation of colorectal biopsy is important both in endorsing the clinical diagnosis of ulcerative colitis and in ruling out other conditions like infective colitis.^{1, 2}

Absolutely clear interpretations of colorectal biopsy specimens is important for clinical management in suspected cases of chronic ulcerative colitis. The different types of reporting and using terms like, mild inflammatory change and nonspecific proctitis/colitis may mask pathologists' difficulties with diagnostic uncertainty and creates problems for clinical management. The problems include lack of awareness of the accuracy, reproducibility of many changes used in diagnosis and absence of standard terminology for pathological reporting, lack of awareness of the range of normal colorectal

histology and wide overlap in the pathological changes of most large bowel inflammatory diseases.³ Majority cases of indeterminate colitis are linked with fulminant colitis, a disease in which the classic features of ulcerative colitis may be hidden by severe ulceration with early superficial fissuring, transmural lymphoid aggregates and relative rectal sparing.^{4,6} This study was carried out to audit the consistency of diagnosis of abnormal colorectal biopsy specimens focusing mainly on ulcerative colitis.

MATERIAL AND METHOD

The study was conducted in Histopathology department of Shaikh Zayed Hospital Lahore. The histopathological diagnosis of non-neoplastic endoscopic colorectal biopsies were audited using data from histopathology reports from Feb 2012 to June 2013. Haematoxylin & Eosin stained slides of 500 diagnosed cases of ulcerative colitis in this period were retrieved from the previous record files. Three parameter i.e., architecture of epithelium, chronic and acute inflammation, were

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re-examined and observations were noted in the specialized designed proforma and were compared with originally issued reports. This was done by three histopathologists independently without any information about the previous diagnosis.

RESULTS

Re-examination of 500 cases of colorectal biopsies was done. Important histological features of ulcerative colitis and their frequency of detection are shown in the table below: -

Histological Changes for diagnosis of ulcerative colitis:	Frequency (%)
1. Architecture	Percentage
• Surface erosions	37
• Mucin depletion	89
• Surface irregularity	63
• Villous surface	30
• Branched crypts	67
• Crypt atrophy (shortening)	37
• Abnormal crypt architecture	91
2. Chronic inflammation	
• Increased LP cellularity	92
• Increased basal cellularity	63
• Basal lymphoid aggregates	11
• Basal giant cells	7
• Epithelioid/Epithelioid like cells	1
• Discontinuous inflammation	10
3. Acute inflammation	
• Crypt intraepithelial polymorphs	86
• Crypt abscesses	100
• Abscesses-destructive	70
• Abscesses-disruptive	86
• LP polymorphs increased	83

LP: Lamina propria.

DISCUSSION

As in most other body viscera, a diverse pattern of abnormalities can occur in the colon and rectum, and a vast majority of diseases may be associated with abnormal morphology of the colorectal mucosa. The competence of histopathologist lies in the abilities to identify certain histological appearances that are diagnostic features of certain clinical entities.⁵

The lack of standardization in the report conclusion was one issue seen in this study. This

often made it difficult to assign cases to a diagnostic category. Other objection in this study could be the acceptance of classical endoscopic findings as validation of the histopathological diagnosis, the information provided in diagnosing the disease being the endorsement of endoscopic appearances by histological evaluation of biopsies. The endoscopic findings were reviewed carefully, and often these findings were very characteristic of the particular disease.

The study proved a correct definite diagnosis of ulcerative colitis in 100% of cases, where the biopsy was given a diagnosis as suggestive of ulcerative colitis, 97.9% turned out as ulcerative colitis. The results of this audit reveal that the sensitivity of the diagnosis of ulcerative colitis can be enhanced by imparting specialized training to pathologists, altering thresholds for reporting categories of chronic idiopathic inflammatory bowel disease, or use of standardized diagnostic techniques, but this should not be at the cost of a substantial decrease in the positive predictive value.

CONCLUSION

This audit concluded that diagnosis of colorectal biopsies especially those with highly suspicious of ulcerative colitis should be done on a proforma which highlights all the relevant histological features that may be significant to the histopathologists in making a high yield diagnosis and to the gastroenterologist for an appropriate clinical management. In addition, another field of improvement was the clinical information given by the gastroenterologist. A proforma should be filled in by the gastroenterologist in order to facilitate a better and comprehensive diagnostic approach.

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