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AN AUDIT OF COLORECTAL CANCER HISTOPATHOLOGY REPORTS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Objective: To audit the completeness of histopathologic reports of Colorectal Cancer for prognostic information in a tertiary care hospital in the light of Royal College of Pathologists of UK guidelines.

Material and Methods: Fifty-eitht histopathology reports of colorectal cancer from January 2007 to December 2012 were reviewed in Rehman Medical Institute, Peshawar, Pakistan for the information content in the light of Royal College of Pathologist of UK guidelines.

Results: Majority of data items were mentioned in the histopathology reports, however background pathologic abnormalities, resections margins (Doughnuts), staging, apical lymph node involvement, relationship of tumor to peritoneal reflection and circumferential resection margins in rectal tumor were poorly mentioned. The mean lymph nodes isolated were twelve (12).

Conclusion: The quality of histopathology reports is unsatisfactory. Action should be taken to improve the histopathologic reports by introducing structural proformas, clinicopathologic conferences and adequate guidelines.

Key Words: Colorectal, carcinoma, histopathology, clinical audit, protocols.

INTRODUCTION

Histopathologic examination of the colorectal cancer is becoming increasingly recognized in the overall management of the patient[1]. It confirms diagnosis and describes the factor that affects prognosis, pathologic stage and completeness of local excision[2]. It also provides an assessment of the effect of new adjuvant therapy (if this has been given) and a guide to the need of post operative adjuvant therapy if preoperative treatment has not been administered[3]. Misleading information in the histopathologic reports results in inappropriate treatment. It is therefore necessary to audit the histopathology reports for the quality and completeness. Audit not only point out the shortcoming but appropriate remedial measure can also be prepared and recommended for the best management of the patient[4]. Several guidelines on reporting of colorectal cancer have been published in various textbook of pathology[5,6] and by various expert working groups[7].

The purpose of this study is to look for quality and completeness of histopathologic reports in the light of Royal College of Pathologists UK guidelines in the last six years.

MATERIAL AND METHODS

This is a retrospective evaluation of histopathology reports of postoperative specimen of 58 colorectal cancer in the Department of Pathology at Rehman Medical Institute (RMI) Peshawar from January 2007 to December 2012. Result and data were evaluated in the light of Royal College of Pathologists UK guidelines. Only the information contents of reports were audited and not the diagnostic precision. Resection colectomy specimen from other causes like ulcerative colitis, diverticulosis, granulomatous inflammation and perforation other than due to malignancy were excluded from the study.

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RESULTS

Out of total 58 cases, 18 were of rectal cancer, the rest of the cases were from different part of the colon. Ten items were mentioned in 100 percent of the reports. Background pathologic abnormalities, staging (Duke & TNM), apical lymph node involvement, resections margins (Doughnuts) and circumferential margin involvement and relationship of tumor to peritoneal reflection in rectal tumor were poorly (Less then 25%) mentioned in the reports. Presence and absence of obstruction and perforation is mentioned in 27 and 48% of the reports Table 1. The mean numbers of lymph nodes isolated per case were 12 with a range of 02-41.

DISCUSSION

Audit is a systemic and independent examination to determine whether quality activities and related results comply with the planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve the objective[8]. Audit is an integral part of clinical governance, with

Table 1: Audited data items percentage mentioned in the reports

Variables	No. and %
Site of the tumor	58(100%)
Diameter of the tumor	58(100%)
Distance of tumor to resection margin	58(100%)
Histological type	58(100%)
Degree of differentiation	58(100%)
Background pathological abnormalities	6(10.34%)
Dukes staging	2(3.4%)
TNM staging	8(13.79%)
Total number of lymph nodes isolated	58(100%)
Apical lymph node metastasis	0(%)
Presence/ absence of lymph node metastasis	58(100%)
Depth of invasion	58(100%)
Neural invasion within tumor	58(100%)
Vascular or lymphatic invasion within tumor	58(100%)
Resection margin (Doughnut)	12(20.68%)
Presence/ absence of perforation	28(48.27%)
Presence/ absence of obstruction	16(27.58%)
Rectal specimensInvolvement of circumferential margin	3(16.66%)
Relationship of tumor to peritoneal reflection	0(0%)

links to both risk management program and evidence based practice. As part of their risk management strategy Histopathology Departments should use audit to minimize the chances of an incorrect/ misleading report[9].

We audited the information content of our histopathology reports of colorectal cancer. We have not investigated the diagnostic precision, the way that the specimens have been handled and the samples of the specimen for microscopic examination. Our results show that histopathologic diagnosis and degree of differentiation is mentioned in 100% of the reports. These are recognized histopathologic prognostic factor in colorectal cancer. Mucinous and signet ring carcinoma have poor prognosis compared to non mucinous tumor[10].

In our study, Duke and TNM staging are poorly mentioned. Duke staging links both depth of tumor penetration and lymph node metastasis. TNM staging for colorectal cancer provide more details and has better inter-observer correlation. Providing a complete set of data, the clinician can stage the patient, however a concluding statement in the pathologic stage will greatly facilitate cancer registration[11].

The presence and absence of lymph node metastasis is well mentioned in our reports (100%), however the apical lymph node involvement is poorly represented. Apical lymph node metastasis is a strong independent negative prognostic factor of poor survival in colorectal cancer[12]. In the majority of cases, the apical lymph node status can be assumed to be negative if the overall nodal status was reported as negative. Nevertheless apical lymph node may not have been identified and this could have implications in patient management[1].

In the present study overall mean number of lymph node is twelve (12), well within the range mentioned by international union against cancer and national cancer institute consensus panel[13,14]. The College of American Pathologists also recommends examination of at least 12 nodes in order to accurately predict node negativity[15]. If fewer than 12 nodes were found after thorough gross examination, additional visual enhancement techniques are recommended[16].

Neural and Lymphovascular invasion are well represented in our reports (100%). Presence and absence of Neural and Lymphovascular invasion gives reliable prediction of recurrences after resection and better selection of patient for adjuvant systemic chemotherapy[17,18]. Intestinal obstruction and perforation are the most important complications in colorectal cancer and are associated with advance disease[5]. Perforated tumor causes peritonitis, shed malignant cell into the peritoneal cavity and regarded as pT4 irrespective of other factors[7]. Presence/ absence of perforation and obstruction are mentioned in 48% and 27% of the reports which needs to be improved.

Regarding rectal tumor, relationship of tumor to peritoneal reflection and involving circumferential resections margin were poorly represented (0% & 16%). Both these are important prognostic factors and have high predictive value for both survival and recurrence[5,19,20]. Therefore it is vital that both factors are properly mentioned in the reports. Audit reports done in other countries also poorly represented these factors. In a study done by Beattie et al in 1996, relationship of tumor below peritoneal reflection was mentioned in only 01% of the reports[21].

CONCLUSION

The histopathology reports of colorectal cancer are unsatisfactory. Staging (Duke & TNM), resection margin (Doughnuts), Apical lymph node involvement, background pathologic abnormalities, circumferential resection margin involvement and relationship to peritoneal reflection in rectal tumor were poorly represented.

RECOMMENDATION

1. It is strongly recommended that template base proforma should be introduced for improving the histopathologic reports.
2. Continuous medical education by informing pathologist of relatively new approaches to dissecting and sampling resection specimen to obtain maximum amount of information in an efficient manner.
3. Frequent interaction between pathologist and clinician to prevent errors and omission in histopathology reporting.

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