THE RESPONSE TO PREOPERATIVE (NEOADJUVANT) CHEMOTHERAPY AND RADIOTHERAPY IN LOCALLY ADVANCED RECTAL CANCER

Dr. P. G. Chougule 1, Dr. S. J. Bhosale2
Professor , Department of General Surgery, Krishna Institute Of Medical Sciences, Krishna Institute of Medical Sciences, Krishna Institute of Medical Sciences Deemed to be University ,Karad
Email :- drpcc50@gmail.com

ABSTRACT

To figure out how well pre-operative (neo-adjuvant) chemo-radiotherapy works for patients with locally advanced rectal cancer by looking at the rates of radiation enteritis after both pre-operative and post-operative treatment. Follow-up continues until November 2019. The research required appropriate biochemistry, pathology, radiography, and medical/surgical management. Since June 2019, outpatients are assessed. Rectal cancer research studied age, sex, diagnosis delay, mortality, treatment options, death causes, surgical complications, and hospital stay. Typical, pre-validated, semi-structured case record proformas recorded the data. CBC, biochemical profile, serological sample, upright abdominal X-ray, CT scan, transrectal, pelvic, or abdominal ultrasound. After staging, patients received chemotherapy (625 mg/m2 capecitabine orally in 4 doses) and radiation (50.4 Gy in 28 parts) and were reevaluated for surgery after 4 weeks. The majority of cases had adenocarcinomas in the middle and lower rectum. 17.5% of neo-adjuvant patients developed radiation enteritis. To make neoadjuvant treatment standard, more experience, competence, and patients are needed.

KEYWORDS: Chemotherapy, Radiotherapy,Colorectal cancer

INTRODUCTION

Before the mid-1980s, rectal cancer patients underwent surgery alone, which led to pelvic failure and death. Postoperative chemotherapy and radiation reduced pelvic failure rates and improved survival in major 1980s–1990s trials, leading to its regular use in stage II/III resected patients.Surgery is still the backbone of treatment, but APR-related anxiety about a permanent colostomy reduces compliance (abdomino-perineal resection). Preoperative radiation therapy significantly reduced pelvic recurrence in a large Dutch randomized trial. Follow-up evaluations of this experiment demonstrated that node-positive individuals receiving complete mesorectal resection (TME) alone have pelvic failure rates over 20%. Recently, the German Rectal Cancer Study found that preoperative chemoradiation improves pelvic control, sphincter preservation, and acute and chronic toxicity. Preoperative or neoadjuvant therapy for locally advanced rectal cancer became common after this trial. Recent European trials have shown that combining chemotherapy with preoperative radiation therapy optimizes local disease management.[1] Chemotherapy is radio sensitizing in this scenario. Thus, in this study, we will assess LARC patients who got neo-adjuvant CRT with Capecitabine in our center.

AIM: To figure out how well pre-operative (neo-adjuvant) chemo-radiotherapy works for patients with locally advanced rectal cancer by looking at the rates of radiation enteritis after both pre-operative and post-operative treatment.

SOURCE OF SAMPLE

Our study's findings were based on 40 patients with locally advanced rectal cancer (stages II and III) who were admitted to or attended Krishna Hospital's oncosurgery OPD. Patients, the

informant, and in-depth clinical examinations and investigations provided the data. A case documentation template meticulously captured this information.

INCLUSIONCRITERIA

1.Any age, any gender patients.

2. The trial will cover patients with locally advanced (stages II and III) rectal cancer.

EXCLUSION CRITERIA

1. The study excludes rectal cancer patients in stages I or IV.

2. The study excludes surgery patients.

STUDY DESIGN: The method for this study was a descriptive study done in a hospital.

STUDY DURATION: The research looked at data spanning almost two years, beginning in November 2017 and continuing through November 2019.

SAMPLE SIZE: The size of the sample was decided based on the prevalence of the disease among the general population as well as the attrition factor. 40 people were included in the sample.

MATERIAL & METHOD

At the end of November 2019, patients were still being followed. The investigations necessitated the use of the department's and/or institution's biochemistry, pathology, radiology, and medical and surgical services. Patients seen in the outpatient clinic have been assessed since June 2019. Age, sex, diagnosis delay, mortality, treatment options, death causes, complications after surgery, and length of hospital stay were all factors in a study of rectal cancer. The information

was gathered using a standard, pre-validated, semi-structured case record proforma. Full blood count, biochemical profile, microbiological sample for serology, upright abdominal X-ray, computed tomography scan, or transrectal, pelvic, or abdominal ultrasound After staging the patients, concurrent chemotherapy (625 mg/m2 capecitabine orally in 4 doses) and radiation (50.4 Gy delivered in 28 portions) were given before a second evaluation at 4 weeks to identify surgical choices.

STATISTICALANALYSIS

Excel 2016 was used to enter the data. Frequency, central tendency, and dispersion were examined using tables and graphs. IBM SPSS 22.0 analyses data. normally distributed variables using parametric significance tests (the students' test). Non-parametric tests examined categorical and nominal connections (chi-square test). 95% confidence bounds calculated the intended conclusion. Two observations differed significantly at 0.05.

BUDGET

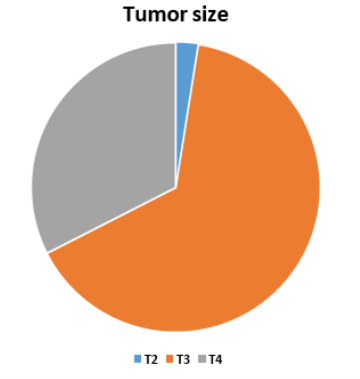
This study didn't raise costs because it only showed what operations the patient had already had or was planning to have.

RESULTS

In this study, 65% of rectal tumours were T3, 32.5% were T4, and 2.5% were T2.

Tumor size	Number of cases	Percent
T2	1	2.5
T3	26	65
T4	13	32.5
Total	40	100

Table 1: Distribution of study subjects according to their tumor size

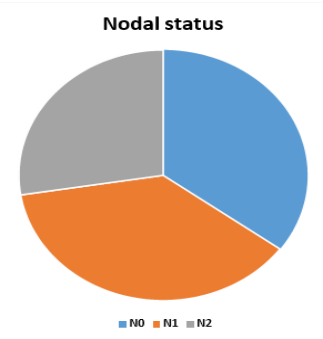


Graph 1: Distribution of study subjects according to the irtumo rsize

In this study, 37.5% of tumours were N1, 35% were N0, and 27.5% were N2.

Nodal status	Number of cases	Percent
N0	14	35
N1	15	37.5
N2	11	27.5
Total	40	100

Table 2: Distribution of study subjects according to their no dalstatus

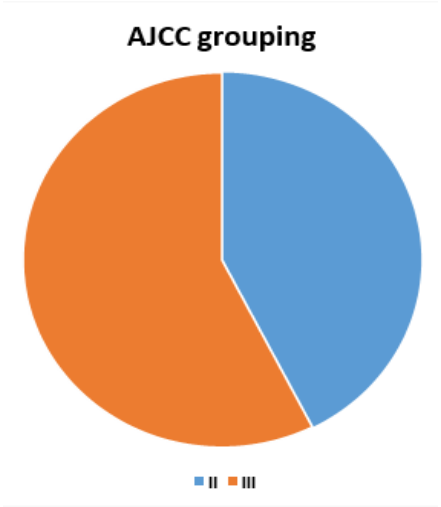


Graph 2: Distribution of study subjects according to their no dalstatus.

Our study used AJCC categorization. AJCC stage III was the most common (57.5%), and stage II was 42.5%.

AJCC grouping	Number of cases	Percent
II	17	42.5
III	23	57.5
Total	40	100

Table 3: Distribution of study subjects according toAJCC grouping

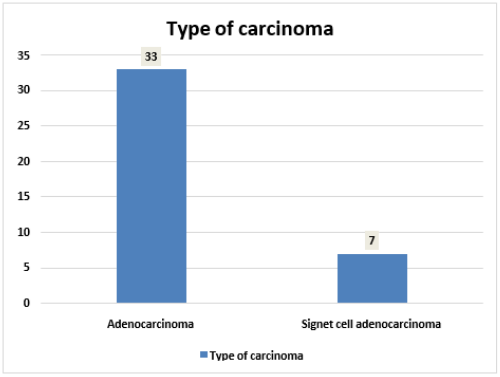


Graph 3: Distribution of study subjects according to AJCC grouping

In this study, we put the people we looked at into groups based on their histological types. We said that all of the cases had adenocarcinomas, and 17.5% of the cases were Signet cell adenocarcinomas.

Histology	Number of cases	Percent
Adenocarcinoma	33	82.5
Signet cell adenocarcinoma	7	17.5
Total	40	100

Table 4: Distribution of study subjects according to their histologicaltypes.

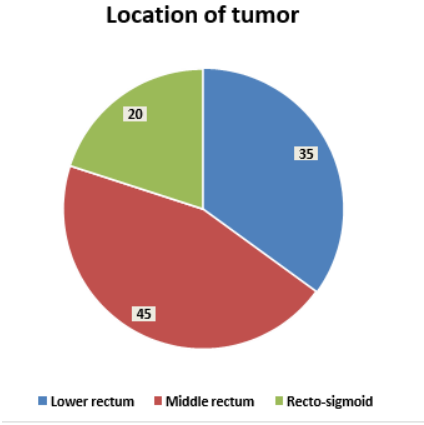


Graph 4: Distribution of study subjects according to their histologicaltypes.

In this study, we looked at where the tumours were in each case. We saw that in most cases (45%), it was in the middle rectum, then in 35% of cases it was in the lower rectum, and in 20% of cases it was at the recto-sigmoid junction.

Location of tumor	Number of cases	Percent
Lower rectum	14	35
Middle rectum	18	45
Recto-sigmoid	8	20
Total	40	100

Table 5: Distribution of study subjects according to location of tumor(pre-therapy)



Graph 5:Distribution of study subjects according to location of tumor

DISCUSSION

In this study, most of the people who took part (65%) had already reached the T3 stage of their cancer. In 32.5% of the cases, the T4 stage came next, and only 2.5% of the people had the T2 stage of their rectal cancer. The current study found that the bulk of the cases (37.5% of them) presented with an N1 stage of tumor, followed by an N0 stage (35% of the cases), and then an N2 stage (27.5% of the cases). According to the findings of the study conducted by Vivek Bansal and colleagues, on initial presentation, 75% of patients had T3 staging, whereas nodal involvement was identified in 33 individuals.

In this particular investigation, we utilized the AJCC categorization system to organize the cases. We found that the majority of the people who participated in the study belonged to AJCC stage III (57.5%), whereas stage II comprised 42.5% of the cases. According to the findings of the research conducted by Vivek Bansal and colleagues, 63.5% of the cases presented with AJCC stage III carcinoma, while the remaining instances presented with stage II.[2]

This study grouped individuals by histological type. All cases had adenocarcinoma, with 17% being Signet cell. Prachi S. Patil et al. found cancer in all 800 individuals. Twenty-one (2.6%) had well-differentiated tumours, 381 (47.6%) moderately, and 165 (20.6%) badly. 234 (29.2%) tumours were undifferentiated. 133 (16.6%) had mucinous carcinoma, and 107 (13.4%) had signet ring cell carcinoma.[3] Classical adenocarcinoma was the most prevalent histology in Snita Sinukumar et al. Signet cell carcinoma was 14.06% and mucinous carcinoma 7.8%.[4]

We investigated the locations of case tumours in this study. We found it in 35% of lower rectum instances, 45% in the middle, and 20% at the recto-sigmoid junction. Vivek Bansal et al. found

that 50% of lesions were in the lower rectum and 38.5% in the middle.[2] According to Prachi S. Patil et al., the most common main site was the rectum (333, 42%), followed by the recto-sigmoid(171, 21%), anorectum (103, 13%), and colon (193 patients, 25%). One hundred forty-four (18%) had right colon tumours (cecum, ascending colon, or hepatic flexure).[3]

CONCLUSION

The majority of cases had adenocarcinomas in the middle and lower rectum. 17.5% of neo-adjuvant patients developed radiation enteritis. To make neoadjuvant treatment standard, more experience, competence, and patients are needed.

REFERENCE

1. Sauer R, Liersch T, Merkel S, Fietkau R, Hohenberger W, Hess C, Becker H, Raab HR, Villanueva MT, Witzigmann H, Wittekind C. Preoperative versus postoperative chemoradiotherapy for locally advanced rectal cancer: results of the German CAO/ARO/AIO-94 randomized phase III trial after a median follow-up of 11 years. J Clin oncol. 2012 Jun 1;30(16):1926-33.

2. Bansal V, Bhutani R, Doval D, Kumar K, Pande P, Kumar G. Neo adjuvantchemo-radiotherapy and rectal cancer: Can India follow the West? J CanResTher2012; 8:209-14.

3. PatilPS,SaklaniA,GambhireP,etal.Colorectal Cancerin India:An Audit from a Tertiary Center in a Low Prevalence Area. Indian J Surg Oncol.2017;8(4):484–490.doi:10.1007/s13193-017-0655-0

4. Snita Sinukumar, Prachi Patil, Reena Engineer, Ashwin Desouza, and Avanish

Saklani,―Clinical Outcome of Patients with Complete Pathological Responseto Neoadjuvant Chemo radio the rapy for Locally Advanced Rectal Cancers: The Indian Scenario,‖ Gastroenterology Research and Practice,vol.2014,Article ID867841,6pages,2014