Original Article

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

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Abstract

To find out how well pre-operative (neo-adjuvant) chemoradiotherapy works for patients with locally advanced rectal cancer by looking at how often the cancer comes back after surgery in the same area. 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. Post-neoadjuvant therapy, 52.5% of patients underwent anterior resection, 37.5% underwent LAR, and 10% underwent APR. To make neoadjuvant treatment standard, more experience, competence, and patients are needed.

KEYWORDS: Chemotherapy, Radiotherapy, Colorectal cancer

INTRODUCTION

The German randomized trial conducted by Hofheinz et al. demonstrated that capecitabine is not inferior to 5-FU/LV in neo-adjuvant CRT. In this study, we examined LARC patients who got 5-FU/LV or capecitabine neo-adjuvant CRT in our center. CRT with 5-fluorouracil (5-FU) and leucovorin (LV) is the LARC standard. Capecitabine, an oral fluoropyrimidine carbamate prodrug of 5-FU, was created to simulate the continuous infusion of 5-FU's anticancer action. Thymidine phosphorylase (TP) completes the three-step conversion to 5-FU. As TP is abundant in tumor cells, the drug possesses tumor-selective activity and synergy with radiation treatment (RT), according to Sawada et al (RT up-regulates TP levels in the tumor). The German randomized trial conducted by Hofheinz et al. demonstrated that capecitabine is not inferior to 5-FU/LV in neo-adjuvant CRT. Our continent has little literature on CRT tolerance and equivalence.[1]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) chemoradiotherapy works for patients with locally advanced rectal cancer by looking at how often the cancer comes back after surgery in the same area.

SOURCE OF SAMPLE

40 patients with locally advanced rectal cancer (stages II and III) who were admitted to Krishna Hospital's oncosurgery OPD were studied. Patients, informants, and in-depth clinical examinations and investigations provided the data. This information was thoroughly documented.

INCLUSION CRITERIA

1. patients of any age or gender.
2. Rectal cancer patients in the later phases of local progression (stages II and III) will be eligible for participation in the experiment.

EXCLUSION CRITERIA

1. People with rectal cancer in stages I or IV are not included in the study.

2. Surgery patients are left out of the study.

STUDY DESIGN:

A descriptive study was carried out in a medical facility as the methodology for this study.

STUDY DURATION:

The study analyzed information from approximately two full calendar years, from November 2017 through November 2019.

SAMPLE SIZE:

The disease prevalence in the general population and the attrition factor determined the sample size. 40 were sampled.

MATERIAL & METHOD

Patients were followed through November 2019. Biochemistry, pathology, radiography, and medical and surgical services were needed for the research. Since June 2019, outpatients have been evaluated. Rectal cancer studies considered age, sex, diagnosis delay, mortality, treatment options, death causes, complications following surgery, and hospital stay. A standard, pre-validated, semi-structured case record proforma collected the data. Full blood count, biochemical profile, serological sample, upright abdominal X-ray, computed tomography scan, or transrectal, pelvic, or abdominal ultrasound After staging, patients received concomitant chemotherapy (625

mg/m2 capecitabine orally in 4 doses) and radiation (50.4 Gy administered in 28 parts) before a second evaluation at 4 weeks to determine surgical options.

STATISTICAL ANALYSIS

Excel 2016 entered the data. Tables and graphs investigated frequency, central tendency, and dispersion. IBM SPSS 22.0 analyses data. parametric significance tests (students' test). Non-parametric tests explored categorical and nominal linkages (chi-square test). 95% confidence boundaries reached the desired result. 0.05 separated the two observations.

BUDGET

This study simply showed the patient's past and future surgeries; thus, it didn't increase expenditures.

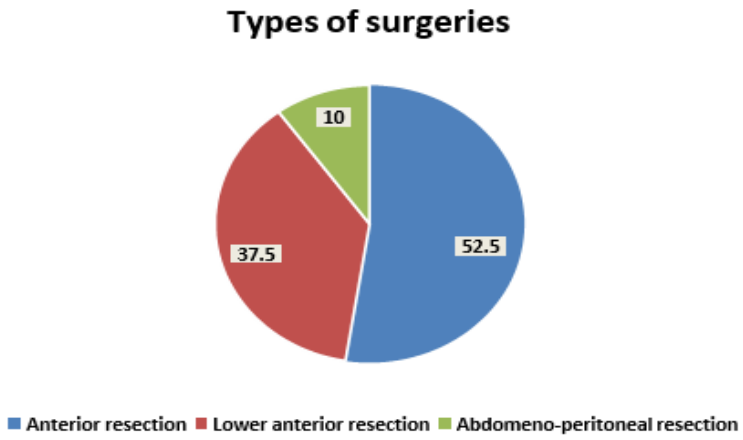
RESULTS

In this study, we evaluated the study subjects based on what kind of surgery was done on them. We saw that, after neoadjuvant therapy, most of the cases were treated with anterior resection (52.5%), then LAR (37.5%), and only 10% were treated with APR.

Table 1: Distributionofstudysubjectsaccordingtotypeofsurgery performed.

Type of surgery	Number of cases	Percent
Anterior resection	21	52.5
Lower anterior resection	15	37.5
Abdomeno-peritoneal resection	4	10
Total	40	100

Graph 1: Distributionofstudysubjectsaccordingtotypeofsurgeryperformed



Inthepresentstudy,weobservedthat17.5%casesreporteddevelopmentofradiationenteritisafterneo-adjuvanttherapy.

Table 2: Distributionofstudysubjectsaccordingtoevidenceofradiationenteritis

Evidence of radiation enteritis	Number of cases	Percent
YES	7	17.5
NO	33	82.5
Total	40	100

Graph 2: Distributionofstudysubjectsaccordingtoevidenceofradiationenteritis

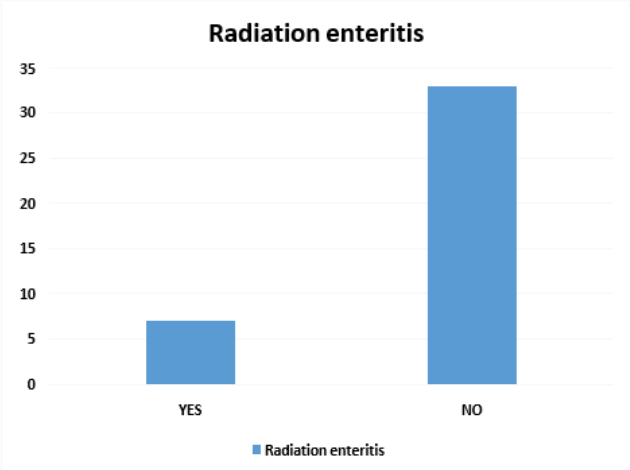


Table 3: Distributionofstudysubjectsaccordingtopresenceofrecurrenceafter6months

Recurrence (at 6 month follow up)	Number of cases	Percent
Yes	0	0
No	40	100
Total	40	100

DISCUSSION

Studies conducted on Indian immigrants from countries with a high prevalence of colorectal cancer, such as the United States and Singapore, have shown that the incidence of CRC is lower in Indians than it is in the native population, but it is higher than what is seen in the Indian registries. [2,3]

In the current study, we evaluated the study subjects based on the type of surgery they had. We saw that, after neoadjuvant therapy, most of the cases were treated with anterior resection (52.5%), then LAR (37.5%), and only 10% were treated with APR.Vivek Bansal and his colleagues found that radical surgery was done on 38 (73%) of the patients in their study.[4] Abdominoperineal resection, or APR, was done on 22 of the patients, or 42.3% of the total. CHEMO-TOXICITY- In this study, we found that 17.5% of people who had neoadjuvant chemotherapy developed radiation enteritis.

CONCLUSION

Post-neoadjuvant therapy, 52.5% of patients underwent anterior resection, 37.5% underwent LAR, and 10% underwent APR. To make neoadjuvant treatment standard, more experience, competence, and patients are needed.

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