A PROSPECTIVE OBSERVATIONAL STUDY OF MANAGEMENT PROTOCOL OF LOCALLY ADVANCED CARCINOMA RECTUM AT MGMMC AND MY HOSPITAL, INDORE

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ABSTRACT

BACKGROUND

Before 1900, Colon and Rectal cancer incidence was negligible. Following economic development and industrialisation, the incidence of colorectal cancer has been rising dramatically. The vast majority (98%) of colon and rectal cancers comprises of Adenocarcinomas. Other rare rectal cancers included carcinoid (0.4%), lymphoma (1.3%) and sarcoma (0.3%). Squamous cell carcinomas may develop in the transition area from the rectum to the anal verge and are considered anal carcinomas. Very rare cases of squamous cell carcinoma of the rectum have been reported. Approximately, 20% of colon cancers develop in the cecum.

MATERIALS AND METHODS

This is a prospective study of all patients with locally advanced carcinoma rectum seen at MY and Cancer Hospital, Indore. Between January 2011 and October 2012, 45 patients with rectal cancer were seen at MY and Cancer Hospital, Indore. Their age range was 20 - 75 years. The male/ female ratio was 1.3: 1. Fisher's exact test was applied for statistical analysis.

RESULTS

15 had abdominoperineal (AP) resection, 10 had anterior resection and 20 had tumours that were not resectable. 9 of the 15 patients (60%) who had AP resection are alive till date, 6 died, while 10 out of the 10 who had anterior resection (100%) are alive till date.

CONCLUSION

Patients with advanced rectal cancer should receive postoperative chemoradiotherapy. Local control, distant spread and survival improves when postoperative radiation therapy is combined with chemotherapy.

KEY WORDS

Locally Advanced Carcinoma Rectum.

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BACKGROUND

Large bowel is connected with anus by a part of colon called as rectum. The main function of rectum is to store stool. The rectal wall has following layers as follows.

- **Mucosa:** It is the innermost layer, which is composed of mucus secreting glands.
- **Muscularis Propria:** This is middle layer containing muscle, which keeps rectum in shape and contract to expel stool.
- **Serosa:** It is the outermost layer containing loose connective tissue, which prevents friction.
- **Mesorectum:** The surrounding layer of the rectum which contains fatty tissue.

Other than these 3 layers, rectum is surrounded by lymph nodes, which are called as regional lymph nodes, which are important in clearing harmful organisms and materials from body. Like rectum every organ in the body is surrounded by lymph nodes.^(1,2,3,4,5,6,7,8,9)

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Adenocarcinoma is the most common cancer of rectum arising from mucosa. Same as colonic cancers rectal carcinoma treatment depends on depth of invasion of cancer into rectal wall and surrounding lymph nodes.

After resection of rectal cancer, loco-regional recurrence is associated with severe debilitating symptoms and is difficult to treat. With median survival of 12 - 18 months, the prognosis after a local recurrence is not good.

Patient with rectal cancer have shown improved outcome with adjuvant chemoradiotherapy. In patients with locally advanced rectal carcinoma, overall survival and local control both improves when postoperative chemoradiotherapy is given in comparison to surgery alone.

In our study, we made a protocol for treatment of locally advanced carcinoma rectum in MGM and MY Hospital.

Aims and Objectives

The study was done in MGM Medical College and MY Hospital, Indore- patients were studied in prospective groups of locally advanced carcinoma rectum with the following aims and objectives-

1. The aim of this study is use of protocol 2012 for management and treatment of locally advanced carcinoma rectum to predict the outcome and prognosis of such patient using this protocol.

MATERIALS AND METHODS

This is a prospective study of all patients with locally advanced carcinoma rectum seen at MY and Cancer Hospital, Indore.

Detailed clinical assessment (history and physical examination) was done in all patients. TNM classification was used for final classification.

Eligibility criteria included histopathologically confirmed adenocarcinoma with the inferior margin within 16 cm from the anal verge. Endorectal ultrasonography and computed tomographic (CT) scanning of the abdomen and pelvis were performed to rule out TNM stage tumours and distant metastases. Patients excluded were older than 75 years of age or who were having previous cancer or who had received chemotherapy or radiotherapy to the pelvis or were contraindicated to chemoradiotherapy.

Two years survival was estimated. The patient had different types of surgical operation and postoperative chemoradiotherapy. Immediate definitive resection and accurate pathological information before beginning ionising radiation are the advantages of postoperative radiotherapy. After study data was statistically analysed by using Fisher's exact test. MYH protocol 2012 for Management of Locally Advanced Carcinoma Rectum.^(10,11,12)

Before Surgery

1. CEA Level.
2. Digital Rectal Examination.
3. Colonoscopy.
4. CECT Abdomen and Pelvic.
5. Routine Investigation.

After Surgery

1. Adjuvant Chemoradiotherapy.
2. CEA Level.

Follow-Up

This includes follow-up visits at 3, 6, 12, 18, 24 months after surgery.

Working Proforma

Name of the patient:

Age:

Sex:

Address:

Symptoms:

Diagnosis:

Chest x-ray:

USG abdomen:

CT abdomen and pelvis:

Hb%:

Pre-operative CEA:

Proctoscopy and colonoscopy:

Intraoperative finding:

Histopathology report:

Post-operative CEA:

RESULTS

Sl. No.	Name of Operation	No. of Patients	%
1	APR	15	33.33
2	Ant. Resection	10	22.22
3	Lap and Colostomy	20	44.44

Table 1. Types of Operation

Sl. No.	Age Range	Frequency
1.	20-29	3
2.	30-39	8
3.	40-49	11
4.	50-59	7
5.	60-69	11
6.	70 and above	5

Table 2. Age distribution of Patient with Rectal Cancer

Sl. No.		APR	Ant. Resection	Not Resectable
1.	Alive	9	10	8
2.	Died	6	0	12
3.	Lost for Follow-Up	0	0	0

Table 3. 2-Year Survival of Patient with Rectal Cancer

Sl. No.	Stage	Operation	Site in the Rectum	
			10 cm from Anal Verge	10 cm from Anal Verge
1		APR	5	0
		AR	0	5
2		APR	10	0
		AR	0	5
3	4	Lap. Colostomy	16	4

Table 4. Types of Operation based on Site and Stage of Rectal Cancer

RESULTS

Between January 2011 and October 2012, 45 patients with rectal cancer were seen at MY and Cancer Hospital, Indore. Their age range was 20 - 75 years. The male/ female ratio was 1.3: 1.

The clinical presentation included weight loss, rectal bleeding, altered bowel habit (alternating diarrhoea, diarrhoea, constipation, low back and pelvic pain and tenesmus). The duration of symptoms ranged from 4 weeks 1 year. Thirty patients, i.e. 66% approached within 6 months of starting of the symptoms and about 34% after 6 months of starting of the symptoms.

Forty-five (100%) had one form of definitive surgical operation had histopathologic confirmation of their rectal lesion on biopsy as adenocarcinoma. Of the 45 patients who had definitive operation, 15 had abdominoperineal (AP) resection, 10 had anterior resection and 20 had tumours that were not resectable. AP resection was used for patients with lesions less than 10 cm from the anal verge, whereas anterior resection was used for patients with lesions 10 cm or more from the anal verge.⁽¹³⁻⁴⁴⁾

9 of the 15 patients (60%) who had AP resection are alive till date, 6 died, while 10 out of 10 who had anterior resection (100%) are alive till date. For patients who had non-resectable tumours, 12 died within 6 months of diagnosis. Only 8 out of 20 (40%) of non-resectable tumours were alive at 2 years. None of the patients had preoperative chemoradiotherapy. All

of them had adjuvant chemotherapy (5-fluorouracil) and radiotherapy.⁽⁴⁵⁻⁵⁰⁾

DISCUSSION

After carcinoma of the lung and stomach in male and after breast and cervical cancer in female, the third most common malignant neoplasm is colorectal carcinoma. It accounts for 9.2% in females and 8.8% of cancers in males. In Western communities like USA, England and Wales, it is more common. Patients with rectal cancer has shown improvement with Adjuvant radiotherapy with chemotherapy. Postoperative chemoradiotherapy significantly improves both local control and overall survival as compared with surgery alone or surgery plus irradiation in locally advanced disease. This information prompted a National Institute of Health consensus conference, convened in 1990, to recommend postoperative adjuvant chemoradiotherapy as standard treatment for patients with rectal cancer classified as tumour-node-metastasis (TNM) stage II (i.e. a tumour penetrating the rectal wall without regional lymph node involvement) or stage III (i.e. any tumour with regional lymph node involvement).

If there was no macroscopic residual tumour once resection has been done, it is considered as curative resection and if there is presence of distant metastases or tumour not resected with proper clearance, then was considered palliative. Due to delayed presentation, our patients were having lower resection rates. This situation can be handled with health education with easily accessible, acceptable and affordable health care.⁽⁵¹⁻⁷⁶⁾

Though follow-up is poor in our set-up because of unawareness and inadequate education of patients, it is found to be better in patients who had AP resection and permanent colostomy may be due to colostomy related problems.

Best treatment patients were offered was a palliative treatment only, because many patients in our study presented with advanced tumour. As described by Lockhart-Mummery in 1958, palliative treatment is required when “to the surgeon’s knowledge or belief growth has been left in the body, whether this is in the lungs, liver, posterior abdominal wall, pelvic or inguinal glands.”

CONCLUSION

Patient with advanced rectal cancer should receive postoperative chemoradiotherapy. Local control, distant spread and survival improves when postoperative radiation therapy is combined with chemotherapy.

We did not give preoperative chemoradiotherapy because of possible overtreatment of early stage tumours, impaired wound healing and pelvic fibrosis increasing the risk of operative complications and also because of ignorance and illiteracy about the disease and poor follow-up. Postoperative chemoradiotherapy gives advantage of immediate definitive resection and accurate pathological staging of the resected tumour and lymph nodes and avoids the wound healing problems associated with preoperative radiation.

With the present study, we aim to definitely clarify the role of the different postoperative therapy regimen in rectal cancer concerning local control as well as long-term toxicities and overall survival.

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