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Surgical Management of Rectal Cancer - A Retrospective Study of 30 Cases

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Abstract: ***The most common definition of a rectal cancer is a tumour with the lowest margin within 18 cm from the anal verge. Another definition is a tumour with the lowest margin below the sacral promontory. This restrospective observational study was conducted on patients of tertiary care hospital over last two years. The retrospective data was based on case records of all the admitted patients of rectal cancer.***

Keywords: Case series, Ractal Carcinoma, CA Ractum

1. Introduction

The most common definition of a rectal cancer is a tumour with the lowest margin within 18 cm from the anal verge. Another definition is a tumour with the lowest margin below the sacral promontory. It can be detected on bowel enema exam, MRI, or findings at operation. Colorectal cancers remain one of the most dynamic fields in oncology. Sporadic colorectal cancer increases dramatically above the age of 45 to 50 years for all groups. Cancer in the rectum is more common in males than females in the ratio of 2: 1, while at other locations in the large bowel the overall incidence is equal for both sexes. Colorectal cancer even though most common in the west, they are on the increase in our country for the past decade.

The most common symptoms of a rectal cancer are rectal bleeding and a change in bowel habits. The most common symptoms of a rectal cancer are rectal bleeding and a change in bowel habits. Other cancer - related symptoms such as anaemia, and loss of appetite and weight are frequently seen. Often symptoms are vague or believed to be caused by haemorrhoids and the patients are unpleasantly surprised by the diagnosis. Therefore, the present study has been undertaken to evaluate surgical outcome of carcinoma rectum.

2. Materials and Methods

This restrospective observational study was conducted on patients of tertiary care hospital over last two years. The retrospective data was based on case records of all the admitted patients of rectal cancer. Demographic data in the form of age, gender, occupation, presenting chief complaints were recorded in chronological order along history of presenting illness, past history, personal history and family history. X - Ray chest and abdomen and USG of chest, abdomen, pelvis, was done in all cases and findings were noted. CECT abdomen and colonoscopy was done in patients to look for obvious pathology. Patient were followed curative resection 2 appointments per year for 3 years and 1 appointment/year for 4th and 5th year. Post operative follow up consisted of serum CEA (yearly), faecal blood test (half yearly), USG (half yearly), colonoscopy (yearly) and CT scan (yearly).

3. Results

- The clinical analysis of 30 cases of rectal carcinoma in various surgical wards of a tertiary care hospital was carried out over a period of 2 years.20 (66.67%) were males and 10 (33.33%) were females, showing 2: 1 (male: female) sex ratio. Below 30 - year CA rectum was rare. Majority of patients were in 5th and 6th decade of life, with youngest patient of 21 year and oldest of 90 years of age in this study.
- 20% of patients were having family history of CA rectum or associated conditions.

Table 1: Distribution of Presenting Complains among the Subjects

S. No.	Presenting Complains	No. of Subjects (n=30)	% of Subjects
1	Bleeding P/R	19	63.34
2	Change in bowel habits	26	86.67
3	Abdominal pain	20	33.34
4	GI obstruction / perforation (Emergency condition)	06	20
5	Weight loss +/ Anorexia	26	86.67
6	Tenesmus	16	53.34
7	Urinary symptoms	05	16.67

- 63.34%, 86.67%, 33.34%, 86.67%, 53.34% and 16.67% of patients presented with bleeding P/R, change in bowel habit, abdominal pain, weight loss/anorexia, tenesmus and urinary symptoms respectively.20% patient presented with emergency condition (GI obstruction/perforation).
- 83.34%, 56.67% and 40% of patients were having addiction of tobacco chewing, smoking and alcohol intake respectively.
- Surgical site bleeding was the most common post operative complication with 73.3% of patients and most severe was an anastomotic leak with 10%.50%, 10% and 6.67% of patients were having surgical site infection. Impotence, stenosis of stoma urinary incontinence respectively.
- 60% of patients were consuming nonveg with high fat content.

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1) Dukes' ABC staging (modified Duke's includes stage D as well).

Duke's staging	TNM staging	Description	Survival (%)
	Stage 0	Carcinoma *in situ*	
A	Stage I	No nodal involvement, no metastases, tumor invades submucosa (T_1, N_0, M_0); tumor invades muscularis propria (T_2, N_0, M_0)	90–100
B	Stage II	No nodal involvement, no metastases, tumor invades subserosa (T_3, N_0, M_0); tumor invades other organs (T_4, N_0, M_0)	75–85
C	Stage III	Regional lymph nodes involved (any T, N_1, M_0)	30–40
D	Stage IV	Distant metastases	< 5

2) Astler - Coller staging which is a further modification of Duke's staging and is most widely used.

Dukes'	Modified Astler-Coller†	Description
A	A	Nodes negative; lesion limited to mucosa
	B1	Nodes negative; extension of lesion through mucosa but still within bowel wall
B	$B2_m$	Nodes negative; microscopic extension through the entire bowel wall (including serosa if present).
	$B2_{m+g}$	Nodes negative; gross extension through the entire bowel wall (including serosa if present) with microscopic confirmation
	B3*	Nodes negative; adherence to or invasion of surrounding organs or structures
C	C1	Nodes positive; lesion limited to bowel wall
	$C2_m$	Nodes positive; extension of lesions through the entire bowel wall (including serosa if present)
	$C2_{m+g}$	Nodes positive; gross extension through the entire bowel wall (including serosa if present) with microscopic confirmation
	C3*	Nodes positive; adherence to or invasion of surrounding organs or structures

- 20%, 46.67%, 20%, 3.3% and 10% of patients were having stage I, IIIA, IIIB, IIIC and IVA respectively.

3) TNM staging described by American Joint Committee is also used

AJCC stage	TNM stage	TNM stage criteria for colorectal cancer
Stage 0	Tis N0 M0	Tis: Tumor confined to mucosa; cancer-in-situ
Stage I	T1 N0 M0	T1: Tumor invades submucosa
Stage I	T2 N0 M0	T2: Tumor invades muscularis propria
Stage II-A	T3 N0 M0	T3: Tumor invades subserosa or beyond (without other organs involved)
Stage II-B	T4 N0 M0	T4: Tumor invades adjacent organs or perforates the visceral peritoneum
Stage III-A	T1-2 N1 M0	N1: Metastasis to 1 to 3 regional lymph nodes. T1 or T2.
Stage III-B	T3-4 N1 M0	N1: Metastasis to 1 to 3 regional lymph nodes. T3 or T4.
Stage III-C	any T, N2 M0	N2: Metastasis to 4 or more regional lymph nodes. Any T.
Stage IV	any T, any N, M1	M1: Distant metastases present. Any T, any N.

- 36.67%, 23.33, 23.33% and 16.67% of patients underwent APR, LAR, AR and Hartmann's procedure respectively.
- 83.33% of patients were having post operative morbidity.
- 40%, 36.67%, 20% and 3.33% of patients were having no residual tumour, microscopic residual tumour,

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macroscopic residual tumour and residual tumour can not be assessed post operatively.

- Postoperatively: 83.33% of stage I tumour was completely resectable, with 16.67% microscopically detectable tumour.42.85% of stage IIIA tumour was completely resectable, with 57.15% microscopically detectable tumour.16.67% stage IIIB tumour was completely resectable, with 33.33% microscopically detectable tumour, with 50% was macroscopically detectable tumour.100% Stage IIIc tumour was having macroscopically detectable tumour.66.67% stage IVA tumour was having macroscopically detectable tumour, with 33.33% was not assessible.
- 43.83% of patients developed recurrence, 55.17% of patients developed no recurrence. (out of 29 patient, 1 patient died on POD 3)
- 38.46%, 30.77 and 30.77 of patients who developed recurrence in form of local, distant metastasis and local + distant metastasis respectively.
- 83.33% was having 5 - year survival.
- 7.70%, 23.07%, 7.70%, 30.77% and 30.77% of patients who developed recurrence at 1st year, 2nd year, 3rd year, 4th year and 5th year postoperative years respectively.
- 20%, 40% and 40% of expired patients belongs to stage I, stage IIIB and stage IVA respectively.
- 83.33%, 90.47% and 0% of patients belonging to stage I, III and IVA was having 5 year survival respectively.
- 16.67% of patient belonging to stage I tumour were expired before 5 year of survival, 33.33% of patient belonging to stage IIIB tumour were expired before 5 year of survival and 100% of patient belonging to stage IVA tumour were expired before 5 year of survival.
- 91.67%, 90.91%, 66.67% and 0% of patients survived for 5 years survival belonging to extent of resection R0, R1, R2 and Rx respectively.
- 83.33%, 95.24% and 0% of patients had 5 years survival belonging to stage I, stage III and stage IV respectively.

Post OP Complications

Post OP Complications	Number of Patients (n=30)	Commonly Associated With Surgical Procedure	Percentage (%)
Surgical Site Bleeding	22	APR	73.33
Infection	15	APR	50
Anastomotic Leak	3	LAR	10
Impotence	3	APR	10
Stenosis Of Stoma	3	HARTSMANN'S PROCEDURE	10
Urinary Incontinence	2	APR	6.67

Histopathology

Histopathology	Number of Patient (n=30)	Percentage (%)
Adenocarcinoma	25	83.33
Spindle Cell Carcinoma	3	10
Signet Cell Carcinoma	1	3.33
Adenosqumous Carcinoma	1	3.33

- 83.33%, 10%, 3.33% and 3.33% of patients were having adenocarcinoma, spindle cell carcinoma, signet cell carcinoma and adenosquamous carcinoma respectively.
- 53.33%, 40% and 6.67% of patients presented with fungating, ulcerative and annular lesion respectively.
- 13.33% of patients underwent re - anastomosis, 10% of patients for post - operative anastomotic leak and 3.33%of patients for temporary diversion ileostomy.

4. Summary

A retrospective study of 30 cases of histopathologically proven cancer who underwent surgery in G. G Hospital, Jamnagar and was on regular follow up in the same institution was studied. Data were collected and analysis was done for surgical outcome.

- Majority of patient was unawre of disease.
- Incidence of male: female was 2: 1.
- Patient in 5th and 6th decade was mainly affected by CA rectum.
- Per rectal bleeding and change in bowel habit was most common presenting complain of CA rectum.
- Most of the patient was consuming non veg or high fat food.
- Tobacco chewing was common addiction in most of the patients.
- 20% of patient has family history of CA rectum or associated conditions.
- S. CEA and S. CA19 - 9 was raised in 40% and 14% of patient respectively.
- Most of the rectal mass was located in upper rectum.
- Majority of patient was having stage III cancer.
- Majority of patient underwent Abdominal perineal resection.
- Bleeding from surgical site was most common post operative complication and few were having urogenital complications.
- Majority rectal tumour was completely resectable with complete tumour free margins.
- 83.33 % patient survived for 5 or more years post surgery.
- 44.83% patient developed recurrent disease.
- 1 patient died within 7 days of surgery.4 patients died before 5 year.
- Adenocarcinoma CA rectum was the most common histopathological variant noted.
- Fungating mass was most common macroscopic feature of tumor noted.

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