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Original Research Article

Audit of Surgical management and outcome of colorectal cancer at B.P.KI.H.S., Eastern Hospital of Nepal: an institutional review

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ABSTRACT

Background: Colorectal cancers (CRCs) are the third most commonly diagnosed cancer in human and major public health problems worldwide. The number of people afflicted with cancer is increasing in the country, and if the trend continues, cancer could soon be among Nepal's main killer diseases. The purpose of this study was to know the management and outcome of colorectal surgery for colorectal cancer at our centre.
Methods: The study was conducted in the Department of Surgery, B.P.K.I.H.S. Dharan, after ethical approval from institutional ethical review board. All patients of colorectal cancer who were operated in our hospital, between 15th June 2012-15th June 2017 (5 years) were included in this study. Each patient's medical record was reviewed retrospectively. Data on the patients presenting complaints, disease status, radiological findings, treatments provided, co morbidities, operative details, postoperative mortality and morbidity, histological results, outcomes and follow up was retrieved from the available case record files and was recorded in predesigned performa. Only histopathological confirmed cases were included in the study.
Results: Total of 109 patients of colorectal carcinoma was registered in our hospital in last five years but only 69 patients underwent curative colorectal surgery at our centre. Out of 69 patients, 41(59.42%) were male and 28(40.58%) were females. The range of the age was 22 to 86; the median age at the diagnosis was 56.5 years. Out of 69 patients, 19 patients underwent right sided hemicolectomy, 12 patients underwent left sided hemicolectomy, 29 patients underwent anterior resection (high/low) and 9 patients underwent abdominoperineal resection. About 95.42% cases were adenocarcinoma on histology. The overall morbidity and mortality were 21.52% and 8.45% respectively.
Conclusions: Colorectal cancer is common cancer and there is increasing trend. We believes that until and unless a population-based cancer registry is created and maintained, it will be difficult to project the exact number of people living with colorectal cancer and the necessary measures to be taken.

Keywords: Audit, Colorectal, Cancer, Outcome

INTRODUCTION

Colorectal cancer (CRC) is currently a worldwide major public health problem. Almost 60% of CRC cases occur in developed regions. About 608,000 deaths from CRC are estimated worldwide, accounting for 8% of all cancer deaths and making it the fourth most common cause of death from cancer. Colorectal cancer can exert a broad range of clinical presentations. Early symptoms that suggest colorectal carcinoma include per rectal bleeding and subtle changes in bowel habits.[1]There is no doubt that surgery remains the definitive treatment for localised colorectal cancer and it is important that the patient undergoes appropriate preoperative preparation.[2] Prompt investigation of suspicious symptoms is important, but there is increasing evidence that screening for the disease

can produce significant reductions in mortality.[3] High quality surgery is of paramount importance in achieving good outcomes, particularly in colorectal cancer, but adjuvant radiotherapy and chemotherapy have important parts to play.[4]The treatment of advanced disease is still essentially palliative, although surgery for limited hepatic metastases may be curative in a small proportion of patients.[5]The purpose of this study was to know the management and outcome of colorectal surgery for colorectal cancer at our centre.

METHODS

This retrospective study was conducted in the department of surgery. After taking permission from, Institutional ethical review committee, the department of surgery and medical record section, record files of patients having colorectal cancer were retrieved. Patients with colorectal carcinoma presenting up to stage 3 were included and metastatic colorectal carcinoma, patients not willing to get operated , critically ill not fit for general anesthesia were excluded from study. All these data were entered in excel 11.5 version and descriptive statistics were calculated.

All procedures were performed under general anesthesia. Preoperative bowel preparation with polyethylene glycol solution was given the day before surgery except in patients with obstructing cancers. Prophylactic intravenous antibiotics were given at the induction of anesthesia. Foley's catheterization and nasogastric tube placement done before surgery. Most of the patients underwent laparotomy through a midline incision. Right sided cancers were treated by right hemicolectomy and left sided cancers by left hemicolectomy. In the emergency situation with a right sided obstructing colonic cancer, right hemicolectomy with primary anastomosis was done. For left sided obstructing lesions, Hartmann's procedure with an end colostomy and closure of the rectal stump was carried out. For Rectosigmoid, upper and mid rectal tumor - anterior resection was done and for lower rectal tumor- abdominoperineal resection was done. All Surgeries were performed by Consultant surgeon.

RESULTS

This retrospective study was conducted in the department of surgery with the help of department of Pathology and Radiology. Total of 109 patients of colorectal carcinoma were registered in our hospital in last five years. Out of which 19 patients opted to attend other cancer hospital in our country/ abroad and 21 patients had metastatic carcinoma when they first visited to our hospital. Total of 69 patients underwent curative colorectal surgery at our centre. Out of 69 patients, 41(59.42%) were male and 28(40.58%) were females with M; F ratio of 1.46:1. The range of the age was 22 to 86; the median age at the diagnosis was 56.5 years. The most commonly involved age group was 41-60 yrs followed by 61-80 yrs and common presentation was bleeding per rectum shown in Table 1 and 2.

Table 1: Age distribution.

Age group	No. of patients	Percentage
21-40	18	26.08
41-60	24	34.78
61-80	19	27.53
>81	8	11.59

Table 2: Symptomatology.

Symptom	No. of patients	Percentage
Bleeding per rectum	52	75.36
Painful defecation and altered bowel habit	43	62.31
Loss of appetite and weight loss	41	59.42
Spurious diarrhoea and tenesmus	39	56.52
Abdominal lump	17	24.63

Out of 69 patients in 29 (42.02%) patients tumour was confined to rectosigmoid colon and most of the patients were having locally advanced tumor shown in Table 3 and 4.

Table 3: Tumor location.

Location of tumor	No. of patients	Percentage
Caecum and right sided colon	19	27.53
Left sided colon	12	17.39
Rectosigmoid, upper and mid rectum	29	42.02
Lower rectum	9	13.04
Total	69	100

Table 4: Tumor staging.

Staging	No. of patients	Percentage
Stage I (Early stage)	6	6.66
Stage II (Early stage)	15	16.66
StageIII (Locally advanced)	48	53.33
# Stage IV (Metastatic cancer)	21	23.33
Total	90	100

#Metastatic diseases were not included in this study

Computerized tomography scan (Figure 1) was done in every patient to know the staging of disease. Anterior resection for rectosimoid, upper rectum and mid rectal tumor was done 29 (42.2%) of patients followed by right hemicolectomy in 19 (27.53%) of patients.

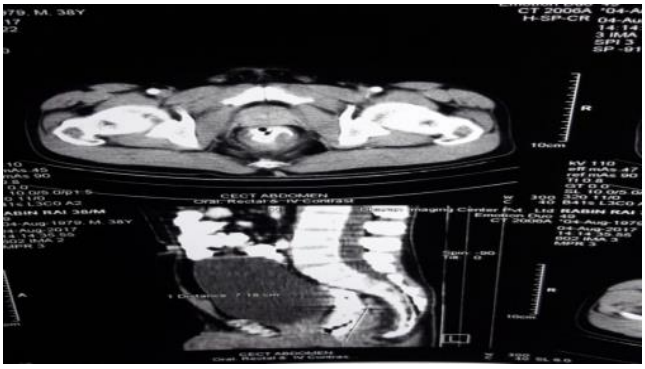

Figure 1: Distal rectal cancer.

Left sided hemicolectomy with Hartman's procedure was done in 3 patients with obstructing left sided lesions Table 5.

Table 5: Surgery performed.

Surgery performed	No. of patients	Percentage
Right hemicolectomy	19	27.53
#Left hemicloectomy	12	17.39
Anterior resection (high or low)	29	42.02
Abdominoperineal resection	9	13.04

Resected specimen is shown in Figure 2 and 3.

Figure 2: Resected rectum, anal canal and sigmoid colon.

Figure 3: Cut open specimen showing tumor in distal rectum.

Most of the patients was having adenocarcinoma (95.42%) followed by squamous cell carcinoma and melanoma shown in Table 6.

Table 6: Histopathological finding.

Histopathology type	No. of patients	Percentage
Adenocarcinoma NOS	51	73.91
Adenocarcinoma mucinous	9	13.04
Adenocarcinoma signet ring	5	7.24
Squamous cell carcinoma	3	4.34
Malignant melanoma	1	1.44

Intra operative bleeding was common complication followed by post operative intense pain, anastomotic leak, sepsis and wound infection shown in Table 7. Total mesorectal excision was part of anterior and abdominoperineal resction. Mean operative time was 3.47 hrs ranges being (1.30 to 5.23 hrs) and mean total length of hospital stay including ward +ICU was 8.54 days (5-26 days).

Table 7: Complication of surgery.

Complication	No. of patients	Percentage
Bleeding (intra /post)	5	7.24
Post-operative severe pain	3	4.34
Wound infection	2	2.89
Sepsis	2	2.89
Anastomotic leak	2	2.89

Adjuvant chemotherapy for colorectal cancer

Stage I patient did not receive chemotherapy. Five patients (high risk group- young age, poorly differentiated tumor) in stage II group, received 5-floro-uracil and leucovorin based chemotherapy. Out of 48 patients in stage III only 33 (68.75%) patients turned up for chemotherapy after surgery.

Radiation therapy for rectal cancer

After surgery and chemotherapy in stage III rectal cancer, patients were referred to other cancer centre for radiotherapy as it is not available at our centre. Out of 69 patients 49 (70.03%) of patients were discharged safely, 6 (8.25%)of patients died in postoperative period and 14 patients had post opetaive complications shown below

The overall morbidity and mortality were 14 (21.52%) and 6 (8.45%) respectively.

Follow up

Only 37 (53.62%) patients followed up in mean follow up period of 8.32 months (range 2-24 months). Six patients

had local recurrence and four patients had distant metastasis in follow up.

DISCUSSION

The intent of this study was to find the incidence of colorectal cancer, patients' age, gender, presenting complaints, histopathology and staging of the disease along with the treatment and its outcome. Although colorectal cancer is third most common cancer, it is not uniformly common through the world.[6]It is mainly a disease of developed countries with western culture and dietary habits. As a matter of fact, more than 63% of colorectal cancer cases are prevalent in developed countries.[7]

The incidence is very low in our country in comparison to the modern Westernized countries.

Increasing age is one of the most important non modifiable risk factors. The likelihood of colorectal cancer diagnosis increases after the age of 40, increases progressively from age 40, rising sharply after age 50.[8]

In present study also the median age at the diagnosis was the 56.50 yrs with the range being 22- 86 yrs and that is comparable to other study. In fact, in the United States, colorectal cancer is now one of the 10 most commonly diagnosed cancers among men and women aged 20 to 49 years.[9]

Colorectal cancer affects male and female almost equally, representing 9.4% of all incident cancer in men and 10.1% in women worldwide but in present study male preponderance was found in comparison other study with a ratio of 1.46:1. Per rectal bleeding was the most common symptom in present study. Same result was found in other studies as well.

The most common histopathological type of colorectal cancer is adenocarcinoma, which accounts for 90% to 95% of all large bowel tumors. Other rare variants of epithelial tumors include squamous cell carcinomas, adenosquamous carcinoma (adenoacanthoma), undifferentiated carcinomas, small cell, 25 and neuroendocrine cancers.[10]

In present study, 95.42 % of cases were of adenocarcinoma. Although exact staging of every patient was not feasible we found that more than 56.33 % patients had locally advanced disease in present study.

Although our retrospective study included a relatively small number of patients and lack of control measurements before treatment, the global results are consistent with most previous research on outcome and survival of colorectal cancers.

In recent years, the nation-wide Dutch Surgical Colorectal Audit was initiated, gathering detailed information on the patient, the procedure and its sequelae. In future, combining these two sources of data may provide new targets for improving outcome for older patients.[11]

Furthermore, programmes focusing on active early detection of colon cancer programs, such as one that has just been started this year in the Netherlands, may decrease the number of patients diagnosed with advanced stage disease, which will in turn require less extensive adjuvant treatment.[12]

Limitations of present study were, firstly files were not filled completely regarding surgical as well as postoperative complications. Secondly, a retrospective study could not evaluate the outcome of surgery over a period of time.

CONCLUSION

Colorectal cancer is the most common cancer killer after lung cancer and there is increasing trend. Its management has been significantly improved by recent advances, but many of these have still not been incorporated into our set up. Authors believes that until and unless a population-based cancer registry is created and maintained, it will be difficult to project the exact number of people living with colorectal cancer and the necessary measures to be taken.

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