INTRODUCTION

Colorectal carcinoma is the commonest malignancy among the gastrointestinal cancers and is the second commonest in order of frequency of all malignant neoplasm. Colorectal cancer ranks second after breast cancer in women and third after lung and prostate cancer in men and is one of the leading causes of cancer-related death in the United States.

It is reported rather infrequently in this part of the world. According to Pakistan Medical Research Council’s report of multicenter study on malignant tumors, malignancies of large intestine and rectum were the sixth commonest malignancies in 1973-74 whereas it moved to ninth position in 1977-80. In 1990, Iftikhar et al reported higher incidence of colorectal carcinoma in northern areas of Pakistan than neighboring countries. In a recent study, Mahmood et al in Sheikh Zayed Hospital Lahore found colorectal carcinoma to be the commonest malignancy of gastrointestinal tract.

Patients with carcinoma of large intestine may have three different modes of presentations. Patients may present with insidious onset of chronic symptoms, acute intestinal obstruction or peritonitis due to perforation of large gut. Depending on the location of tumor in the bowel, one or other of the following symptoms may predominate, e.g. bleeding per rectum, change in bowel habit, mucin discharge, pain, anorexia, weight loss, obstructive symptoms or palpable mass.

Obstruction of colon by carcinoma implies a more advanced tumor and has usually been identified as a poor prognostic variable. The mortality rate can be twice as that of the non-obstructed group and the ability to perform a potentially curative resection is also low. Perforation is the most fatal complication; the perforated tumor is associated with higher morbidity and mortality. The incidence of perforation associated with carcinoma of colon is 6-12%.

Overall, colorectal cancer affects men and women approximately equally. In recent years, also there is an increase in colorectal carcinoma in younger people. Also, there is a huge amount of literature proved strong association of dietary habits with colorectal
carcinoma. But one interesting meta-analysis provides good evidence for an association between alcohol drinking of more than one drink per day and colorectal cancer risk. Surgical intervention remains the mainstay of therapy for carcinoma of colon. Resections of the involved segments of colon should be performed whenever possible. The surgeon should characterize clearly whether the section has been considered curative, (in which case all of the obvious disease has been resected along with involved lymph nodes and any contagious structures), or palliative, (in which case the residual local, regional, or distant disease is present at the end of the operative procedure). The importance of this distinction cannot be overestimated because of the need for postoperative adjuvant therapies. Palliative resection is of high value in preventing obstruction, blood loss, and to improve the quality of life.

**MATERIAL AND METHOD**

It is a cross sectional retrospective study. Patients with histological proof of carcinoma were included in the study. Data over the period of two year was collected and analyzed.

This multicenter study was conducted in the Department of Surgery, Shalimar Medical and Dental College Lahore, Social Security Hospital Lahore and the Department of Surgery, King Edward Medical University Lahore from 1st January 2007 to 31st December 2008. Written permission was obtained from the ethical committee of hospital. Informed consent was taken from all the patients or their attendants. All patients admitted in the surgical wards of Shalimar hospital, Social Security Hospital and Mayo Hospital with colonic carcinoma were included in the study. Basic demographic details including age, gender, area of residence, marital status and duration of symptoms were taken.

**RESULTS**

Total 100 patients who were operated at Shalimar Hospital, Mayo Hospital and Social Security Hospital Lahore were included in the study. Out of these, 56 (56%) were males while 44 (44%) were females with a male to female ratio of 1.27:1. Age at the time of presentation was ranging from 11 to 90 with a mean age of 49.56.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 40 years</td>
<td>28 (28%)</td>
</tr>
<tr>
<td>40 to 60 years</td>
<td>40 (40%)</td>
</tr>
<tr>
<td>More than 60 years</td>
<td>32 (32%)</td>
</tr>
</tbody>
</table>

**Table-I. Showing age groups.**

Mean time of start of symptoms and the time of presentation in the hospital was 6.5 months ranges from 1 to 24 months. It was noted that rectal carcinoma presented earlier with a mean duration of 5 months, range 1 to 18 months as compare to colonic carcinoma where mean time of presentation was 8 months, ranges from 3 to 24 months. Among colonic group right, sided masses presented late as compare to left colonic tumors. Mean time was 9.5 month as compare to left side where mean time was 6.5 months.

Now we will discuss the pathological findings in our patients. Out of our 100 patients, none of the patient present with Duke A. Maximum number of the patients fitted into Duke C which had relatively poor prognosis. After that, 32% falls into Duke B with good prognostic value.

<table>
<thead>
<tr>
<th>Duke</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>B</td>
<td>32</td>
</tr>
<tr>
<td>C</td>
<td>44</td>
</tr>
<tr>
<td>D</td>
<td>24</td>
</tr>
</tbody>
</table>

**Table-II. showing pathological findings.**

In our study, majority of the patients had well or moderately differentiated growth. Only 20.79% of patients had poorly differentiated growth on
histopathology report which had relatively poor prognosis.

We further study the type of pathology in our study. According to the Department of pathology, 79.13% specimens sent for pathology were adenocarcinoma.

<table>
<thead>
<tr>
<th>Type of Pathology</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well differentiated adenocarcinoma</td>
<td>41.66%</td>
</tr>
<tr>
<td>Moderately differentiated adenocarcinoma</td>
<td>37.55%</td>
</tr>
<tr>
<td>Poorly differentiated adenocarcinoma</td>
<td>20.79%</td>
</tr>
<tr>
<td>Mucin secreting adenocarcinoma</td>
<td>12.55%</td>
</tr>
<tr>
<td>Adenocarcinoma with neuro-endocrine element</td>
<td>4.16%</td>
</tr>
<tr>
<td>Malignant melanoma</td>
<td>4.16%</td>
</tr>
</tbody>
</table>

Table-III. Showing degree of differentiation of growth.

In few international studies, most colorectal adenocarcinomas (~70%) are diagnosed as moderately differentiated. Well and poorly differentiated carcinomas account for 10% and 20%, respectively. Though according to our pathology department, well differentiated growth accounts for 41.66% followed by moderately differentiated carcinoma. In the same study author mentioned that 90% of colorectal carcinomas are adenocarcinomas originating from epithelial cells of the colorectal mucosa. In our study, adenocarcinoma accounts for 80% of the total number.

DISCUSSION

The relationship of age of patient and the diagnosis of colorectal carcinoma has been a point of discussion in many studies. In our study, male to female ratio was 1.27:1 which is comparable with Mahmood et al, WasimJafri et al, Kenda JFN et al, and Muhammad Sarfraz et al5,9-13. As compare to these studies, recently Gwen Murphy proved that male rates were higher than female rates at all sub sites for all racial and ethnic groups14.

It was also noted that patients below the age of 40 have worst prognosis than patients above that age. Also patients above the age of 70 present at an earlier stage15. Horn JW et al estimated that less than 5% of colorectal carcinoma occurs in patients who are less than 40 years of age but in our study 28% are younger to that age. The mean age of presentation in our study was 49.56 years. There are other studies from Pakistan5,16 which shows the same age distribution. Although several studies indicate the worst outcome for patients who develop colorectal carcinoma before the age of 4017,18. Though, there are two series suggest that younger patients have the same survival as the older ones19,20. The result of age distribution is comparable with other studies carried out in Pakistan9,11,21. In contrast to this, Nawa T et. al. mentioned that colorectal carcinoma is much more common in older individuals. More than 91% of patients are diagnosed with colorectal cancer over the age of 5022.

Malignant Melanoma of the colon is again a very rare disease. There have been only 12 reported cases of primary melanoma of the colon to date24. We diagnosed 4 cases of malignant melanoma in our patients.

Ganglioneuromas (GNs) can be detected in different anatomical locations but are rarely found in the colon. Intestinal GNs have been found in patients with several systemic syndromes such as multiple endocrine neoplasia type IIB (MEN IIB), neurofibromatosis type 1 (NF1) (also known as von Recklinghausen’s disease), juvenile polyposis, polyposis coli, tuberous sclerosis, and Cowden’s disease25. Fortunately, we were also
able to found 4 cases of adenocarcinoma with neuroendocrine element.

The overall morbidity in our study was 32% which is higher than reported by Mahmood et al 28%5 but is comparable with Vignati PV et al,26 who reported morbidity to be 35-40%. Thirty days mortality of our study was 8% higher (13.66%) in emergency group as compared to 3.57% in the elective group.

The overall mortality rate is high as compared to overall mortality rate of 5% reported by K.K. SINGH27 but their reported 13% mortality rate of emergency patients is comparable with our study. Recently, fifty-three prospective cohort studies and 45 randomized controlled studies with 36,315 patients were published with very impressive results. The anastomotic leak rate, reported in 84 studies, was 11%. The pelvic sepsis rate, in 29 studies, was 12%; the postoperative death rate, in 75 studies, was 2%; and the wound infection rate, in 50 studies, was 7%.28

REFERENCES


