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A Survey on Prescription Pattern of Rectal Cancer in Bangladesh

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Abstract

Rectal cancer is one of the most common cancers in the current world and has emerged as the leading cause of death worldwide. Here the survey is conducting to figure out the current treatment trend for this disease in Bangladesh. In this study it was observed that, poor people like small businessman and day laborer are the main victims and male are more susceptible to this disease than women in Bangladesh. Different types of drugs are used for the treatment of rectal cancer, according to the condition, disease state, age and sex of the patients. Although patients reported to completely cured or partially improved their condition, most of the patients faced moderate to severe hair loss, diarrhea, constipation, low red blood count, extreme fatigue etc. Total number of prescribed drugs for the treatment of rectal cancer varies according to associated problems. In generalized analysis it was found that the doctor prescribed more than3 drugs for most of the patients and in significant number of cases they used exactly 3 drugs.

Keywords: Rectal Cancer, Prescription Pattern, Drug Preference, Side Effect.

Introduction

Rectal cancer placed itself among the most prevalent and life threatening cancer of current world. The rectum is part of the body's digestive system which removes and processes nutrients (vitamins, minerals, carbohydrates, fats, proteins, and water) from foods and helps pass waste material out of the body. The digestive system is made up of the esophagus, stomach, and the small and large intestines. Rectum has three layers named Mucosa, Muscularis propria and Muscularis propria which acts to secretes mucus to help the passage of stool, help the rectum keep its shape and contract in a coordinated fashion to expel stool and surrounds the rectum respectively (Gerard J Tortora, & Bryan H Derrickson, 2008). Another important component of the rectum is the surrounding lymph nodes which are part of the immune system and assist in conducting surveillance for harmful materials (including viruses and bacteria) that may be threatening the body. In addition to lymph nodes, bloods and tissues might act to spread the cancer resulting metastasis. The most common type of rectal cancer is adenocarcinoma, which is a cancer arising from the mucosa (T Muto et al. 1975). Family history is a factor in determining the risk of rectal cancer. Having certain hereditary conditions, such as familial adenomatous polyposis (FAP) and hereditary nonpolyposis colon cancer (HNPCC or Lynch syndrome) tuned as a risk factor for rectal cancer. (Miew Keen Choong, and Guy Tsafnat, 2012 & Marianne Berg and Søreide Kjetil, 2011). Nevertheless, perhaps the most important, is the lack of screening for rectal cancer. Routine cancer screening of the colon and rectum is the best way to prevent rectal cancer (Sidney Winawer et al., 2003). Although many symptoms have been described, with the main ones being rectal bleeding, diarrhea, or constipation, collectively named 'change in bowel habit' which includes loss of weight, abdominal pain, and anemia.(William Hamilton and Deborah Sharp, 2004). However, these symptoms are also common with benign conditions, so the clinician has to select patients as per spreading of diseases investigation. Primary care investigation sometimes includes physical and history examination, digital rectal exam (DRE), proctoscopy, colonoscopy, carcinoembryonic antigen (CEA) assay biopsy etc.(Evan T. Keller and Zheng Fu, 2008). Once the rectal cancer has been diagnosed, tests are done to figure out the spreading of the disease. According to information about spread of the cancer the disease is classified under different stage. The

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treatment and prognosis of rectal cancer depend on the stage of the cancer, which is determined by how deeply the tumor has invaded the wall of the rectum, whether the lymph nodes appear to have cancer in them and whether the cancer has spread to any other locations in the body (Organs that rectal cancer commonly spreads is the liver and the lungs.) Diagnostic procedures like Chest x-ray, CT scan (CAT scan), MRI (magnetic resonance imaging), Endoscopic ultrasound (EUS), PET scan (positron emission tomography scan), Carcinoembryonic antigen (CEA) assay are implemented (Omar Moussa et al., 2013). Rectal cancer generally classified for four stages. In Stage I and Stage II the tumor involves in the layer of the rectal wall and mesorectum respectively however, no lymph nodes are involved. In contrast for, Stage III and Stage IV the lymph nodes are involved with the cancer. Actually in Stage IV, cancer spreads to produce metastasis (Andrea Maier and Michael Fuchsjäger, 2003 and Schmoll, H. J., et al., 2012). The goals of treating localized rectal cancer are to ensure the removal of all the cancer containing parts and to prevent a recurrence of the cancer, either near the rectum or elsewhere in the body. If rectal cancer is diagnosed as stage I, then surgery is likely to be the only necessary step in treatment. The risk of the cancer coming back after surgery is low, and, therefore, chemotherapy is not usually offered.Sometimes, after the removal of a tumor, the doctor discovers that the tumor penetrated into the mesorectum (stage II) or that the lymph nodes contained cancer cells (stageIII).In these cases, chemotherapy and radiation therapy are offered after recovery from the surgery to reduce the chance of the cancer returning. Chemotherapy and radiation therapy given after surgery as adjuvant therapy (Martin H. Kaiser and Susan S. Ellenberg, 1985). If the initial exams and tests show a person to have stage II or III rectal cancer, then chemotherapy and radiation therapy should be considered before surgery which is called neoadjuvant therapy. This therapy lasts approximately 6 weeks. Neoadjuvant therapy is performed to shrink the tumor so it can be more completely removed by surgery and is likely to tolerate the side effects (Gail Wilkes and Kevan Hartshorn, 2012). After recovery from the surgery, a person who has undergone neoadjuvant therapy should meet with the oncologist to discuss the need for more chemotherapy. If the rectal cancer is metastatic, then surgery and radiation therapy would only be performed if persistent bleeding or bowel obstruction from the rectal mass exists. Otherwise, chemotherapy alone is the standard treatment of metastatic rectal cancer. At this time, metastatic rectal cancer is not curable.5-Fluorouracil (5-FU), Capecitabine (Xeloda), Oxaliplatin (Eloxatin), Irinotecan (Camptosar, CPT-11, Bevacizumab (Avastin) and Cetuximab (Erbitux) are some commonly used chemotherapeutic agents for rectal cancer (Gail M. Wilkes, 2009). Medications are available to alleviate the side effects of chemotherapy and antibody treatments. If side effects occur, an oncologist should be notified so that they can be addressed promptly.

II. Method

Data sources and search strategy: Different institution such as Bangabandhu Sheikh Mujib Medical University, Delta Medical College and Hospital and Ahasania Mission Cancer Hospital was chosen based on their reputation for cancer treatment and availability of rectal patients to collect data for six months. The main strategy for this survey is to identify rectal cancer patients and collect about 109 copy of their prescription for investigation purpose. After collection of data the statistical analysis was done by Microsoft Excel.

III. Results and discussions

For the evaluation and management of cancer we went to the Bangabandhu Sheikh Mujib Medical University, Delta Medical College and Hospital and Ahasania Mission Cancer Hospital The data were collected from the admitted patients. Patient's personal and medical history like blood pressure and diagnosis profile were also collected. They were interviewed by asking question in Bengali, using a thoroughly preplanned questionnaire. Analysis of results takes place on the basis of the following data.

The most important observation of the study is that the age group of 65-74 years (Figure 1) had the highest incidence of rectal cancer of

about 36% and the age among 55-64 patients are about 28%.Then the age limit among 45-54(18%), 35-44(9%) and 25-34(5%) (Table 1).

Table 1: Age distribution table of total patients with rectal cancer

Age Range	Number of patients
25-34	8
35-44	15
45-54	22
55-64	28
65-74	36

We have found that, rectal cancer is not significantly depend on occupation (Table 2) although poor people of small business and dependent of physical labor seems more susceptible to this disease (Figure 2).

Table 2: Rectal cancer patients according to Occupation

Occupation	Number of patients
Service	35
Business	29
Student	8
others	37

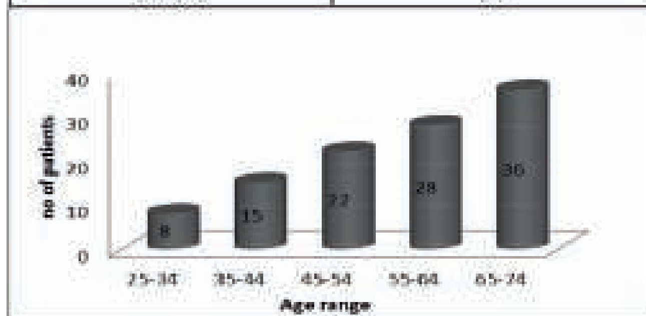

Figure 1: Age distribution of total patients with rectal cancer

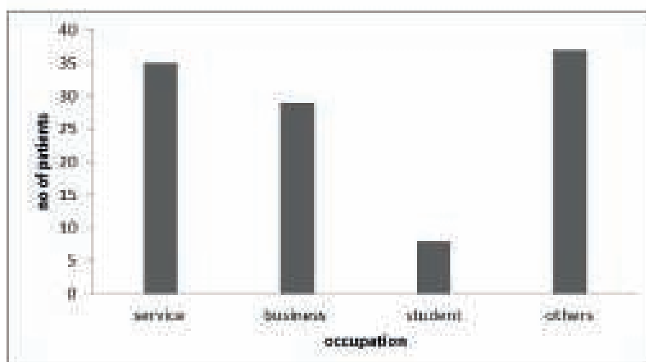

Figure 2: Rectal cancer Patients According Occupations

From our study it was found that the majority of the rectal cancer patients are male of about 60% (Figure 3).

Table 3: Rectal cancer according to sex

Sex	Number of patient
Male	65
Female	44

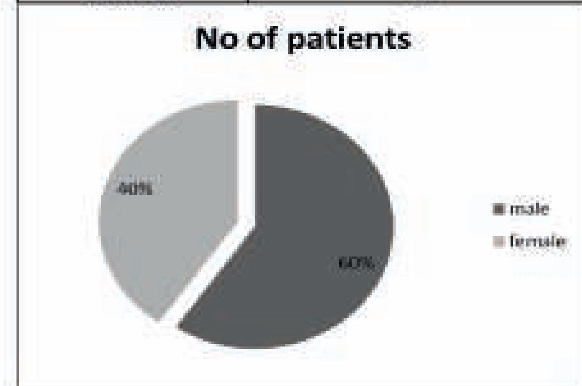

Figure 3: Rectal cancer patients according to sex

In most of the cases doctor prescribed (Table 4) more than 3 drugs of about 36% and less than 3 drugs of about 25% and exactly 3 drugs of about 39% of patients for the treatment of rectal cancer (Figure 4).

Table 4: Distribution of patients on the basis of prescribed drug by doctors

No of drugs	No. of patients
3 drugs	39
Less than 3 drugs	27
More than 3 drugs	43

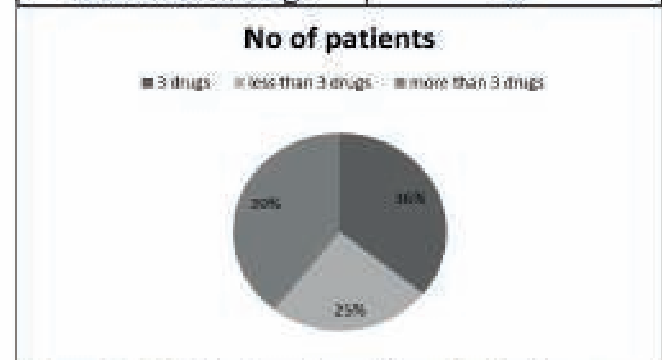

Figure 4: Distribution of no of drug by the doctor

According to our study patients who are detected as stage I and stage II, their survival rate is 100% for at least 5 years however, among them 56% patients were partially cured and 44% were totally cured for a certain period (Figure 5).

Table 5: Cured range of the treatment of the rectal cancer

Cured range	Number of patient
Partial improvement	61
Maximum improvement	48

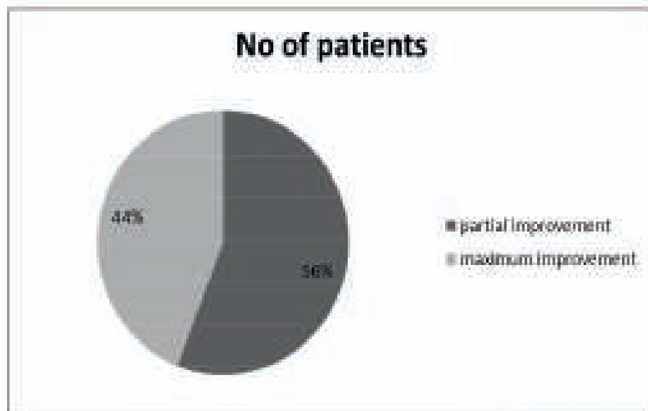

Figure 5: Cured range of the rectal cancer patients

Although significant number of patients was cured completely or at least partially, they suffer moderate to severe side effects. The figure shows that most of the patients have hair loss problem of about 29%, vomiting of about 26%, low red blood count of about 27%, constipation of about 10%, and 8% patients have diarrhea.

Table 6: Patient on the basis of Side Effect Profile

Side effect	Number of patient
Hair loss	32
Vomiting	28
Constipation	11
Low red blood count	29
Diarrhea	9

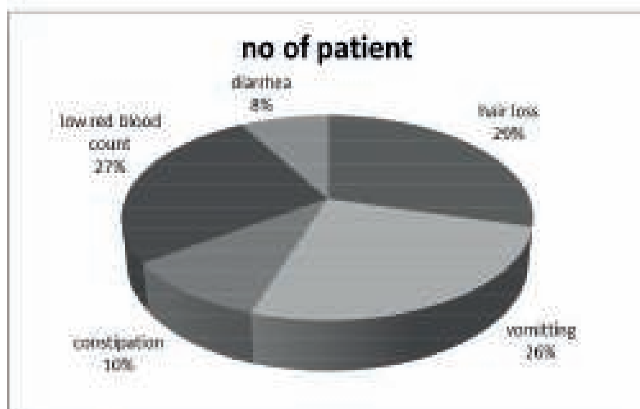

Figure 6: Side effect of the rectal cancer treatment

The most important feature of the study was to find out commonly prescribed drugs by physicians for the treatment of rectal cancer. Vepesid are the most prescribed drugs by the doctors of about 30%, Platinol of about 22%, Paraplatin of about 20%, Bevacizumab of about 10%, Oncovin of about 8% and 10% prescribed others drugs.

Table 7: Drugs prescribed for the treatment of rectal cancer

Drugs name	No. of patients
Vepesid (Etoposide)	120
Platinol (Cisplatin)	88
Paraplantin(carboplatin)	80
Bevacizumab(Avastin)	40
Oncovin(vincristine)	32
Others	40

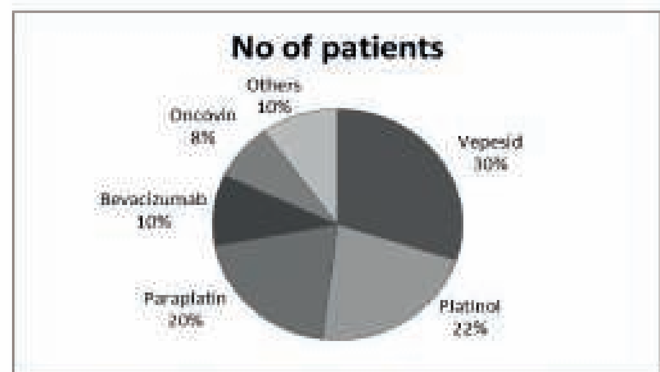

Figure 7: Drugs which are used for the treatment of rectal cancer

Conclusion

Cancer is threatened the humankind with its sharp and severe claw. Although people invest their maximum effort to combat this diseases are yet to find any actual treatment. Mortality rate is very high till now but the survival time of the affected patient's increases gradually. The earlier the cancer is detected the greater the survival probability would be. There is no better option than prevention of cancer. Most of the people of our country have no much more idea about the cancer. We need to create social awareness about the life threatening disease cancer.

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