Colo-Anal Anostomosis in Low Locally Advanced Rectal Cancer: A Formidable Option in Selected Patients

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Abstract: *Background.* Rectal cancer is a disease that is predominantly seen in the developed World than the developing countries but there is a rising incidence as a result of gradual change of diet to that of the western World and it is seen in much younger age than the Caucasians. *Materials and Methods.* The study prospectively reviewed all patients clinically and histologically diagnosed with low rectal cancer and managed in this hospital between January 2012 and December 2016. *Results.* A total of 53 patients were managed aged ranged between 11-77 years with male to female ratio of 1.4:1. The peak age group was 41-50 years accounting for 30.19%. The clinical stage at presentation was Duke's A, B, and C in 15.85%, 50%, and 34.15 respectively. The histological varieties were Adenocarcinoma in 92.68% and mucinous carcinoma in 7.32%. The procedure performed were resection of the tumor with full through and colo-anal anastomosis for all the cases. The complications recorded were surgical site infection in 13.21, enterocutaneos fistula in 1.89%, recurrence of 5.66% and mortality of 1.89%. *Conclusion.* Rectal cancer in developing countries is on the rise, community health education, early detection through screening of the vulnerable age groups, and adequate multidisciplinary treatment reduces morbidity and mortality. Among the operative procedures for the treatment of low tumors colo-anal anastomosis has been found to be a formidable option.

Keywords: low rectal cancer, colo-anal anastomosis, formidable option, our experience

Introduction

The rectum is located within the pelvis, extending from the transitional mucosa of the anal dentate line to the sigmoid colon at the peritoneal reflection; by the rigid sigmoidoscopy, the rectum measures between 10cm and 15cm from the anal verge (Kenig and Richter, 2013). The location of the rectal tumor is usually indicated by the distance between the anal verge, dentate line, or anorectal ring, and the lower edge of the tumor, with measurements differing depending on the use of the rigid or flexible endoscope or digital examination (Bokkerink et al., 2017). The distance of the tumor from the anal sphincter musculature has implications for the ability to perform sphincter – sparing surgery. Rectal cancer is one of the frequent human malignant neoplasm and the second most common cancer in the large intestine. Rectal bleeding is the most common presentation of rectal cancer (Tong et al., 2014; Noriko et al., 2016). In later stages of the disease, other symptoms such as tenesmus, incomplete stool evacuation, diminished caliber of stools cramping, pelvic and rectal pain or obstructive symptoms might present (Stowers, Hartman and Gustin, 2014; Gosavi, Mishra and Kumar, 2017; Lee et al., 2017). Different types of treatment modalities have been proposed for patients with rectal cancer. The diagnosis is made with the typical history and clinical examination, sigmoidoscopy and colonoscopy are two common used diagnostic and screening modalities for rectal cancers (Robb et al., 2010; Jun et al., 2016). Surgery is the mainstay of treatment for resectable rectal cancers, according to the location of the tumor and the stage, surgical resection can be performed as the sole treatment modality or in combination with other neoadjuvant and/or adjuvant therapies (Gu and Gao, 2017; Ludmir et al., 2017). The study was aimed to determine the effectiveness of colo-anal anastomosis in a low rectal cancer as a sphincter preserving procedure in a region devoid of facilities such as stapling devices for effective treatment.

Patients and Methods

The study prospectively reviewed all patients clinically and histologically diagnosed with low rectal cancer and managed in this hospital between January 2012 and December 2016. Permission for the study was granted by the Hospital management and informed consent obtained from all patients. Information extracted from clinical and laboratory records and data analyzed using SPSS statistical analysis. All patients that presented with emergency were resuscitated using intravenous fluids, antibiotics (ceftriaxone/ metronidazole), tetanus toxoid, blood, and diverting colostomy where necessary. Investigations done were full blood count; blood chemistry, random blood sugar, proctosigmoidoscopy, colonoscopy and tissue biopsy for histology. Others were barium enema, abdominopelvic ultrasound scan; chest x-ray, and ECG. CT scan and MRI were done where indicated. All patients had bowel preparation before definitive surgery under general anesthesia.

Results

A total of 53 patients were managed aged ranged between 11-77 years with male to female ratio of 1.4:1. The peak age group was 41-50 years accounting for 16(30.19) (Table 1). The clinical stage at presentation were Duke's A, B, and C in 8(15.85%), 26(50%), and 19(34.15) respectively. The histological varieties were Adenocarcinoma in 49(92.68%) and mucinous carcinoma in 4(7.32%). The procedure performed were resection of the tumor with full through and colo-anal anastomosis for all the cases. The complications recorded were surgical site infection in 7(13.21), enterocutaneos fistula in 1(1.89%), recurrence of 3(5.66%) and mortality of 1(1.89).

Table 1. Age distribution of low rectal cancer

Age (years)	No	%
11-20	3	5.66
21-30	12	22.64
31-40	6	11.32
41-50	16	30.19
51-60	8	15.09
61-70	3	5.66
71-80	5	9.43
Total	53	100

Discussion

The rectum because of its peculiar anatomic position posed a great challenge in its surgical approach to malignancy especially in developing countries where modern facilities are lacking. Colorectal cancer is a global problem, with higher incidence in the developed countries, though declining recently (Marley and Nan, 2016). The disease is seen in patients older than 50 years (Center, Jemal and Ward, 2009), in contrast to developing countries where the disease though rare but is being seen in younger patients with a rising incidence. In this study the peak age group was the 5th decade in contrast to the study by Marley and Nan (2016) in United States where the peak incidence was a decade older. The commonest site of CRC in the current study was the rectum similar to the findings by Irabor (2011). Though most tumors were well differentiated, late presentation with advanced disease was the norm. These were the findings by Clegg-Lampty, Dakubo and Attobra (2009). The histological variety showed adenocarcinoma as the commonest in 92.68% which was similar to the study by Ibrahim et al. (2011). Tumor synchrony was seen in 3.66% which was similar to the findings by Van Leersum et al. (2014). All patients benefitted from the procedure as it avoided permanent colostomy as

obtainable in AP resection. This is most evident among the younger age group that has longer life expectancy, thereby avoiding psychological trauma of permanent colostomy for life. Complications recorded were surgical site infection in 18.29% which was similar to study by Serra et al. (2011) that recorded 23%. Enterocutaneos fistula in 3.66% and mortality of 8.54% which were close to the study by Osler et al. (2011) that recorded between 3.5% and 4.41%. The rising incidence among the young calls for a screening program for early detection which will reduce morbidity and mortality.

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