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USEFULNESS OF NEO ADJUVANT CHEMO-RADIOTHERAPY IN COLORECTAL CARCINOMA TO IMPROVE THE RATE OF SURGERIES

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ABSTRACT

To improve the rates of surgeries feasible following neoadjuvant therapy Results: Total numbers of cases were twenty among them 14 were male & 6 were female. Out of 20 cases, 4(20%) were well differentiate adenocarcinoma, 8(40%) moderately differentiated adenocarcinoma, 5(25%) poorly differentiated adenocarcinoma, 2(10%) infiltrating type of adenocarcinoma and 1 (5%) mucinous adenocarcinoma. 20% of the patients underwent Low Anterior Resection, 35% of patients underwent Anterior Resection, 35% of the patients underwent Abdomino-Perineal Resection, 10% had undergone Loop Colostomy. Total number of patients who underwent APR was 35% which without the Neo-Adjuvant therapy would have been 60% i.e., 25% patients were benefited from a sphincter saving procedure. Neoadjuvant therapy may be considered a rational approach for treatment of curative rectal cancer. Volumetric reduction of neoplasia, mesorectum and lateral pelvic nodes was evident in 90% of the patients.

KEYWORDS : Colorectal Malignancy, Neoadjuvant Therapy, Chemo-Radiotherapy, Abdomino-Perineal Resection, Loop Colostomy

The lifetime risk for developing invasive colorectal cancer increases with age, with more than 90% of new cases being diagnosed in patients older than 50years (Peter I Morris & Ronald, 1994).

Colorectal cancer occurs in hereditary, sporadic, or familial forms. Hereditary forms of colorectal cancer have been extensively described and are characterized by family history, young age at onset, and the presence of other specific tumors and defects. Familial adenomatous polyposis (FAP) and hereditary nonpolyposis colorectal cancer (HNPCC) have been the subject of many recent investigations that have provided significant insights into the pathogenesis of colorectal cancer (John 1993).

Cancers arising in the distal 15cms of the large bowel share many of the genetic, biologic, and morphologic characteristics of colon cancers. However, the unique anatomy of the rectum, with its retroperitoneal location in the narrow pelvis and proximity to the urogenital organs, autonomic nerves, and anal sphincters, make surgical access relatively difficult. In addition, precise dissection in appropriate anatomic planes is essential because dissection medial to the endopelvic fascia in vesting the mesorectum may doom the patient to local recurrence of the disease, and dissection laterally to the avascular anatomic space risks injury to the mixed autonomic nerve, causing impotence in men and bladder dysfunction in both sexes (Bailey and Love's).

Furthermore, the biologic properties of the rectum, combined with its anatomic distance from the small intestine afforded by it retroperitoneal pelvic location, provides an opportunity for treatment by radiation therapy (David C Sabiston).

There is considerable controversy today concerning the precise role of surgery, radiation therapy, and chemotherapy, and the ideal timing of each modality with relation to the others. Although information from clinical trials has provided data supporting the multimodality treatment of rectal cancer, the criteria for patient selection remains controversial (Marcus J., 1993).

Increased number of colo-rectal surgeons has shown improved outcomes,evidencing that the surgeon has to be listed as a risk-factor.

The present study was undertaken to improve the rates of surgeries feasible following neoadjuvant therapy.

MATERIALS AND METHODS

This study has been conducted in the Department of Surgery, Govt. Rajaji hospital, Madurai during 2008-2009. Patients admitted in general surgery units, surgical gastroenterology & surgical oncology department were selected. All these patients were subjected to detailed history, thorough clinical examination of the abdomen, digital rectal examination, proctoscopy, and scopy guided biopsy was taken for Histopathological examination.

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All these patient had base line biochemical investigation done and included Blood- Hb%, TC, DC, sugar, urea, creatinine, Urine sugar, albumin, microscopy Liver function test Ultrasonography Double contrast Barium enema when warranted Computed Tomogram plain and contrast enhanced, Magnetic Resonance Imaging when feasible.

All patients were counselled with regards to treatment side effects, possible outcome with and without the preoperative chemo-radiotherapy, the side effects during the course. The patients were counselled with regards to Colostomy. During the counselling session, a previous ostomate was included.

Indications for neoadjuvant therapy, basing a difference between the absolute and relative one were explained. Dosages of drugs and radiation were taken care. Comparing indicatively of clinical and diagnostic data before neoadjuvant therapy and before surgery was done. Patients were staged according to the TNM classification system using clinical and radiological data (Nicholls et al., 1982).

All patients in the study, after thorough clinical, radiological, histopathological and baseline investigation and counselling underwent radiotherapy 4500 to 6000cGy in 150 to 200cGy fractions for 5 days a week and concurrent 5-FU 10mg/kg and leucovorin 30mg infusion every 21 days for 6 cycles and restaged after the completion of the therapy clinically and radiologically.

RESULTS

Total numbers of cases were twenty among them 14 were male & 6 were female figure 1.

Out of 20 cases, 4(20%) were well differentiate adenocarcinoma, 8(40%) moderately differentiated adenocarcinoma, 5(25%) poorly differentiated adenocarcinoma, 2(10%) infiltrating type of adenocarcinoma and 1 (5%) mucinous adenocarcinoma.

All patients were subjected to chemo-radiotherapy for 6weeks, followed by surgery. 20% of the patients underwent Low Anterior Resection, 35% of patients underwent Anterior Resection, 35% of the patients underwent Abdomino-Perineal Resection, 10% had undergone Loop Colostomy.

Out of the 20 patients 2 female patients had posterior vaginal wall fixity which following CRT underwent APR without resection of the posterior vaginal wall figure 2, 3.

Total number of patients who underwent APR was 35% which without The Neo-Adjuvant therapy would have been 60% i.e., 25% patients were benefited from a sphincter saving procedure (figure 4).

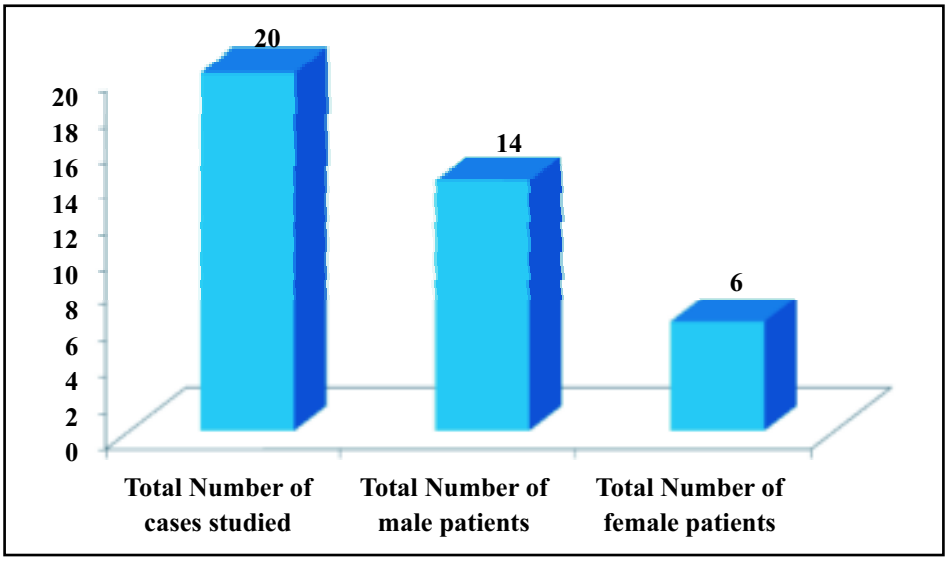

Figure 1 : Distribution of Male & Female

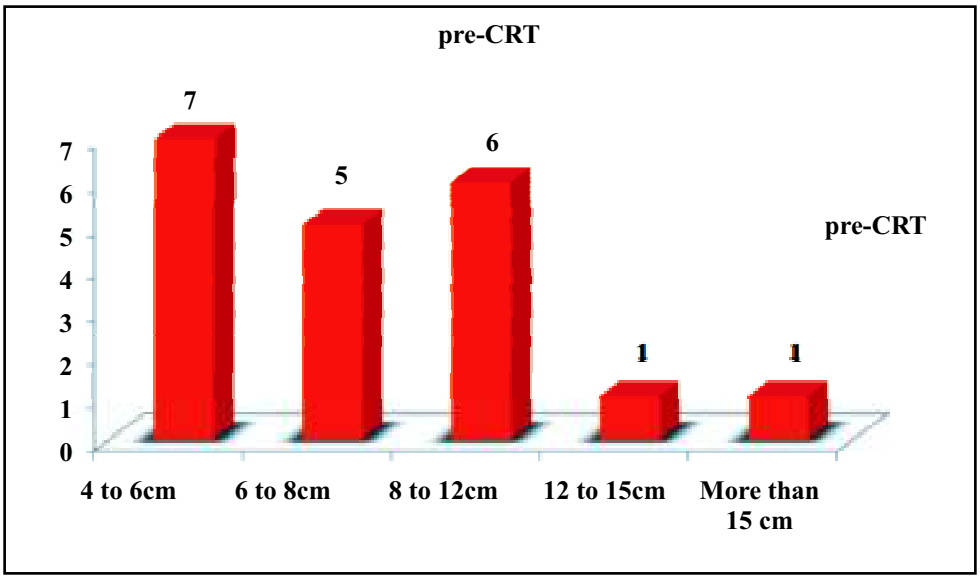

Figure 2 : Pre-CRT Distance of Lower Extent of Lesion from the Anal Verge

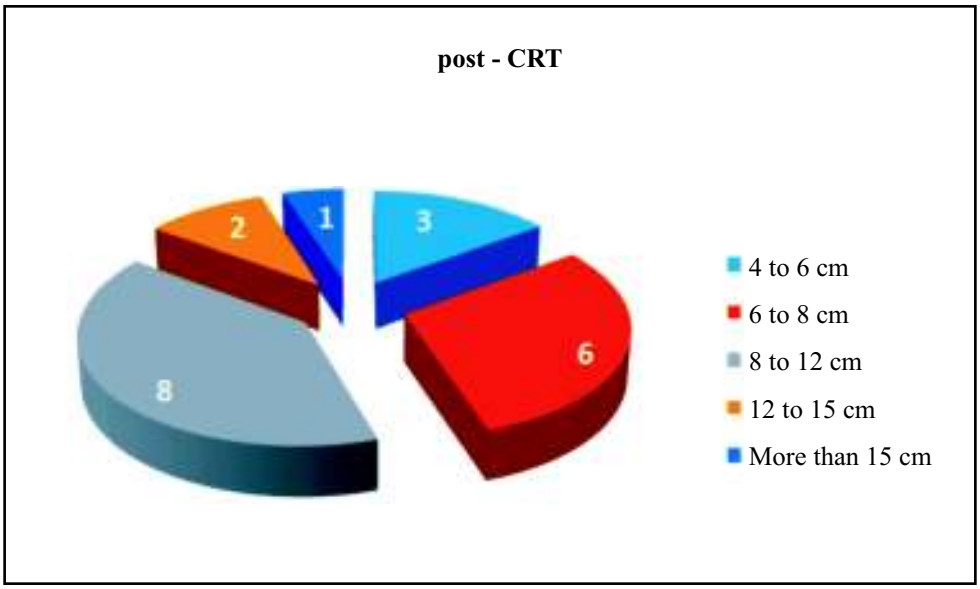

Figure 3 : Post-CRT Distance of Lower Extent of Lesion from the Anal Verge

DISCUSSION

90% of the patients underwent definitive surgery. Abdomino perineal resection and anterior resection was the commonest surgery performed in the study constituting about 70%. 55% of total patients had undergone a spincter preserved procedure.

In 35% of patients, tumor regression of ≥2cm, ≤3cm was noted followed neoadjuvant therapy. on Digital Rectal examination. Among 7 patients who underwent APR, 4 patients (55.5%) had perineal wound infection, which was treated with appropriate dressing and antibiotics after obtaining culture and sensitivity reports. Out of 18 patients, who underwent definitive surgery 6 patients constituting 33.33% had abdominal wound infection and were treated with daily dressing and appropriate antibiotics. 2 patients had died post-operatively, one patient on Ist POD due to Pulmonary Embolism and the other on 8th POD due to ARDS.

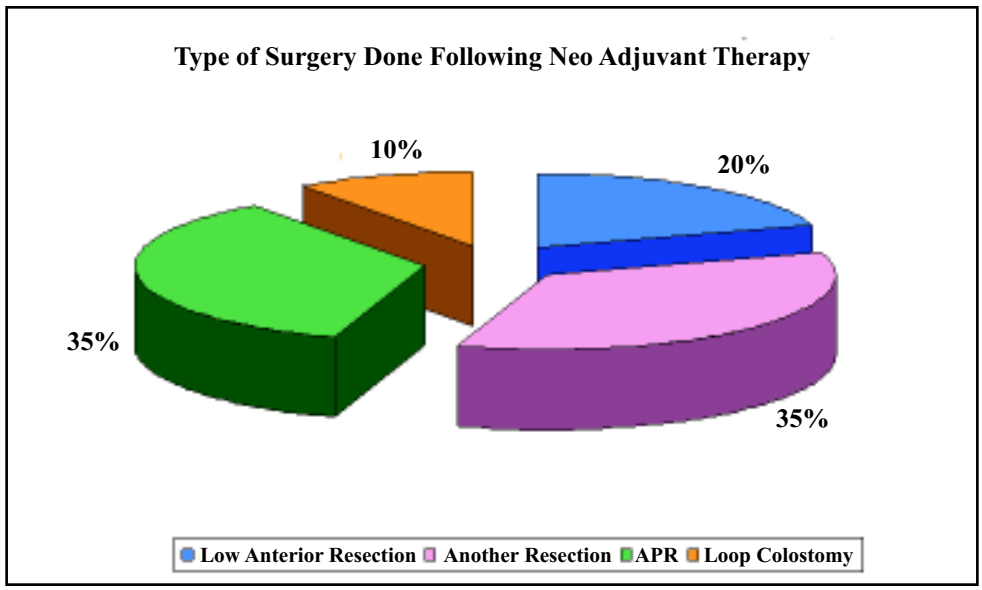

Figure 4 : Type of Surgery Done Following Neo Adjuvant Therapy

CONCLUSION

Volumetric reduction of neoplasia, mesorectum and lateral pelvic nodes was evident in 90% of the patients. There was 25% improved surgical feasablity for a sphincter saving procedure in the study. There was a definite reduction of side effect on close organ, mainly on small bowel, which are not displaced into pelvis by post-operative adhesions. There was no local recurrence in patients who underwent surgery during the 2 year follow up period. All Non-Metastatic patients are candidates for pre operative neoadjuvant therapy. Patient selection by detailed pre-op staging very important. Radiation total dose/fraction/fields are not uniformly agreed upon. Neoadjuvant therapy needed in many cases.

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