COMPARISON BETWEEN CONCURRENT CHEMORADIATION WITH VERSUS WITHOUT CHEMOTHERAPY AS BLADDER PRESERVATION PROTOCOL IN MUSCLE INVASIVE BLADDER CANCER

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INTRODUCTION

Concurrent chemo-radiotherapy (CRT) plays an integral role in the definitive bladder preservation treatment of muscle invasive bladder cancer (MIBC). The role of induction neoadjuvant chemotherapy (NAC) prior to CRT is yet unclear.

AIM OF THE WORK

We aimed to compare the treatment outcomes of NAC followed by CRT versus definitive CRT in patients with MIBC undergoing bladder preservation.

SUBJECTS AND METHODS

This is a retrospective study of 46 patients with MIBC who had undergone bladder preservation treatment after maximal transurethral tumor resection (TURBT) from Jan 2016 to Dec 2019. Patients were distributed into 2 groups; group A (n=23) received definitive CRT while group B (n=23) received 3 cycles induction NAC (Cisplatin 70 mg/m2 on day 1 and Gemcitabine 1000 mg/m2 on day 1 & 8) 21-day apart prior to CRT. In both groups, 3D conformal RT total bladder dose was up to 60-65Gy using conventional fractionation concurrent with weekly cisplatin (40mg/m^2). Response assessment and patient follow-up were done by cystoscopy with biopsy and CT scan. The primary outcomes were ORR, mean DFS and two-year OS. Survival data was determined by Kaplan–Meier estimator, statistical inferences by the log-rank test and multivariate analysis by multiple linear regression. Treatment related adverse events were reported following NCI-CTCAE v4.0.

RESULTS

The median age at diagnosis was 65 (range: 57–74) years. After a median follow-up period of 19 months. Treatment related toxicity was comparable in both groups except for grade 1-2 hematological toxicity was higher in group B (P=0.032) and neuropathy (grade 1-2) was 4.3% versus 31.8% in group A and B respectively (P=0.012). Nephrotoxicity (grade 1-2) was 50% of group A and 31.8% of group B (P =0.22). Grade 1-2 diarrhea affected 17.4% of each group.

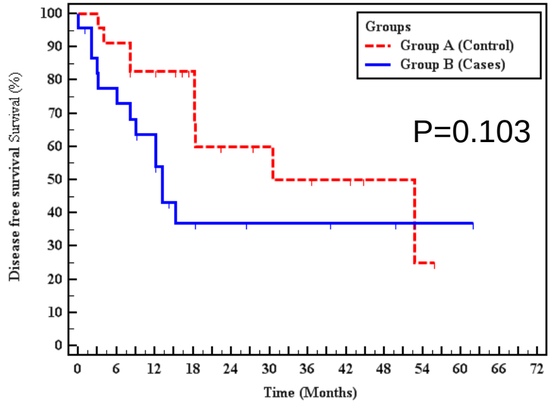

Figure 1: Kaplan-Meier survival curve for disease free survival

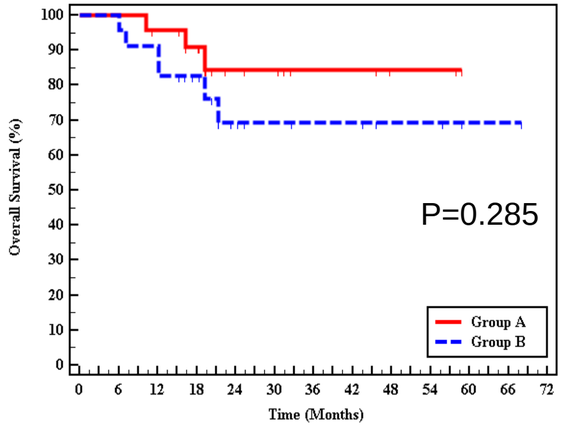

Figure 2: Kaplan-Meier survival curve for overall survival

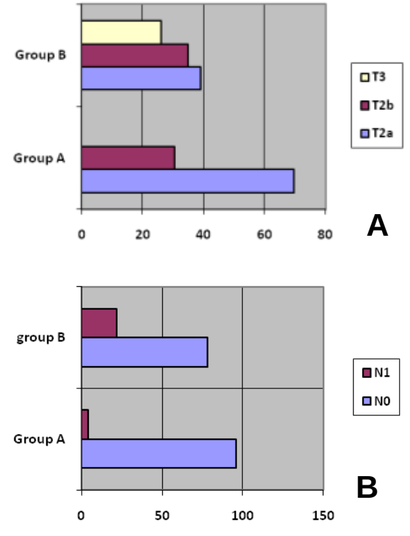

Figure 3: Distribution of the studied patients according to the TNM staging

CONCLUSION

Induction NAC did not affect the outcomes in patients undergoing bladder preservation by definitive CRT. However, it significantly increased mild to moderate grades of hematological and neurological toxicities. It could be considered as a feasible option in centers with high patient burden and expected long waiting for RT machines. Further randomized prospective study with longer follow-up is recommended.