19- GEMCITABINE BASED HYPOFRACTIONATED CHEMORADIATION IN TREATMENT OF MUSCLE INVASIVE BLADDER CARCINOMA

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Abstract

Introduction: Bladder cancer is a global health problem worldwide and the ninth most common cancer. The most appropriate treatment algorithm for muscle-invading disease remains controversial. Although radical cystectomy has been the mainstay for treatment for decades, organ preserving regimens using predominantly multiple modality therapy are emerging as viable proven alternatives in a subset of patients. The RTOG 95-06 study, examining the combination of hypofractionation with chemotherapy, showed a 67% complete response rate and a 3-year survival rate of 83 %.

Objectives: This prospective study aimed at evaluation the efficacy and toxicity of a modified hypofractionated chemoradiotherapy protocol for patients with muscle invasive bladder cancer.

Patient and methods: This prospective study was conducted during the period from April 2012 to end of 2016 in the radiotherapy department, South Egypt Cancer Institute, clinical oncology department, Assiut University Hospital and urology hospital Assiut University. Forty-five patients ,37-79 years old, transitional cell carcinoma, stage 57.8% T2, 40% T3, N0, M0 after transurethral resection [24.4% complete TUR and 75.6% incomplete TUR] and magnetic resonance imaging, were recruited. Patients were treated with hypofractionated radiotherapy [RT] schedule that delivered 52.5 Gy in 20 fractions with weekly Gemcitabine 100mg/m^2. **Results:** the majority of patients achieved complete response (CR) up to 86.7% and 13.3% with partial response. Three patients only (6.7%) suffered from G3 acute bladder toxicity but no G3 proctitis. The 2-year overall survival [OS] rate recorded 93.3% and progression free survival [PFS] (82.8%) in favor of hypofractinated radiation schedule regrading standard conventional one. The multivariate analysis showed TUR as the only factor affecting OS [0.002] and PFS [0.38] significantly.

Conclusion: The hypofractionated radiation proved to be of higher CR rate and survival rate with the favorable toxicity profile than that of conventionally fractionated radiation schedule given concurrently with Gemcitabine. Also, the schedule is tolerable and cost effective as well.