

Analysis of Factors Associated with Treatment Response of Different Fractionation Regimens of High Dose Rate Intracavitary Brachytherapy in Treatment of Carcinoma of Uterine Cervix

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Cancer of uterine cervix is the fourth most common cancer in women worldwide, responsible for 3.3 % of cancer deaths in women. Cervical cancer is the second commonest gynaecological malignancy in Sri Lanka among women and the second commonest cancer in developing countries. Locally advanced cervical cancer is treated with External Beam Radiotherapy (EBRT) along with the concomitant chemoradiotherapy (CCRT), followed by High Dose Rate- Intracavitary Brachytherapy (HDR-ICBT). Objective of this study was to analysis the factors associated with treatment response of different dose fractionation regimens of CCRT and HDR-ICBT. A prospective observational study was conducted among 60 patients who registered for definitive CCRT and HDR- ICBT as a treatment of locally advanced cervical cancer at the Department of Radiotherapy and Oncology, National Cancer Institute, Maharagama (NCIM). Patients were categorized into two groups based on calculated minimum Equivalent Dose in 2Gy (EQD2) according to their prescribed dose fractionation schedules. Treatment response was assessed in terms of complete remission and local failure for both groups of patients in 3 months duration. 60% of patients achieved complete remission with $EQD2 \geq 80$ Gy while 33.33% with $EQD2 < 80$ Gy. 23.33% of patients had local failure with $EQD2 \geq 80$ Gy while 56.67% of patients had local failure with lower EQD2. EQD2 and age at diagnosis were found to be associated factors in terms of complete remission and local failure in locally advanced cervical cancer treated with CCRT and HDR-ICBT. Treatment duration was not found to be an associated factor with treatment response in terms of complete remission and local failure.

Keywords: Cancer of uterine cervix, External Beam Radiotherapy, Concomitant chemoradiotherapy, High Dose Rate- Intracavitary Brachytherapy, Equivalent Dose in 2Gy, Complete remission, Local failure