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A Prospective Randomise Comparison of Change in the Quality of Life in Locally Advance Head and Neck Cancer Patients Treated with Simultaneous Integrated Boost Versus Sequential Boost Arc Therapy

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Abstract
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Abstract

Purpose: IMRT or VMAT currently standard techniques for treatment in head and neck cancer. Radiotherapy is the integral component for the management in head and neck cancer. To compare the change in quality of life in patients of locally advance head and neck cancer (larynx, oropharynx, hypopharynx) treated by Simultaneous integrated boost (SIB) versus Sequential boost (SEQ) arc therapy.

Methods: Newly diagnosed stage III and IVA cases of larynx, oropharynx, and hypopharynx were included in study. Randomized into two arms SIB vs. SEQ each have three PTVs (planning target volume), PTV-HR (High risk), PTV-IR (intermediate risk), and PTV-LR (low hazard). Quality of life scoring was done with the European Organization of Research and Treatment of Cancer Quality of Life Core Questionnaire, version 3.0 (EORTC QLQC30) and EORTC head and neck module (EORTC QLQ-HN35) on two occasions, first before the start and second three months after completion of treatment.

Results: In QLQ 30 the median global health status score was better in the SIB group (p=0.09) but the change in global health status was statistically significant in the SEQ group (p=0.02) post-treatment. There was a statistically significant reduction in pain in SIB (p=0.02). In QLQ-HN35 considerable change was found with improvement in swallowing (p=0.036), trouble with social eating (p=0.034), and the requirement of nutritional supplement (p=0.01) in the SIB arm. There was an improvement in all other parameters but only change in felt ill (p=0.03) was significant in the SEQ boost arm.

Conclusion: Both arms are comparable but statistically significant improvement was found in GHS in the SEQ boost arm, pain improvement, swallowing, and social eating in the SIB arm.