

International Conference on

Oral, Mouth and Throat Cancer

August 15-17, 2016 Portland, USA

A randomized phase II/III study of adverse events between sequential (SEQ) versus simultaneous integrated boost (SIB) Intensity Modulated Radiation Therapy (IMRT) in nasopharyngeal carcinoma; preliminary result on acute adverse events

Anussara P. Songthong

King Chulalongkorn Memorial Hospital, Thailand

Background: To investigate acute and late toxicities comparing sequential (SEQ-IMRT) versus Simultaneous Integrated Boost-Intensity Modulated Radiotherapy (SIB-IMRT) in Naso Pharyngeal Carcinoma (NPC) patients.

Methods: Newly diagnosed stage I-IVB NPC patients were randomized to receive SEQ-IMRT or SIB-IMRT, with or without chemotherapy. SEQ-IMRT consisted of two sequential radiation treatment plans: 2Gy x 25 fractions to low-risk planning target volume (PTV-LR) followed by 2Gy x 10 fractions to high-risk planning target volume (PTV-HR). In contrast, SIB-IMRT consisted of only one treatment plan: 2.12Gy and 1.7Gy x 33 fractions to PTV-HR and PTV-LR, respectively. Toxicities were evaluated according to CTCAE version 4.0.

Results: Between October 2010 and November 2013, 122 eligible patients were randomized between SEQ-IMRT (54 patients) and SIB-IMRT (68 patients). With median follow-up time of 16.8 months, there was no significant difference in toxicities between the two IMRT techniques. During chemoradiation, the most common grade 3-5 acute toxicities were mucositis (15.4% vs 13.6%, SEQ vs SIB, $p=0.788$) followed by dysphagia (9.6% vs 9.1%, $p=1.000$) and xerostomia (9.6% vs 7.6%, $p=0.748$). During the adjuvant chemotherapy period, 25.6% and 32.7% experienced grade 3 weight loss in SEQ-IMRT and SIB-IMRT ($p=0.459$). One-year overall survival (OS) and progression-free survival (PFS) were 95.8% and 95.5% in SEQ-IMRT and 98% and 90.2% in SIB-IMRT, respectively ($p=0.472$ for OS and 0.069 for PFS).

Conclusion: This randomized, phase II/III trial comparing SIB-IMRT versus SEQ-IMRT in NPC showed no statistically significant difference between both IMRT techniques in terms of acute adverse events. Short-term tumor control and survival outcome were promising.

anussara_pr@yahoo.com