Impact of Radiotherapy and Chemo-radiotherapy on Oral Health-Related Quality of Life in Post-treatment Patients with Oral Squamous Cell Carcinoma

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Abstract

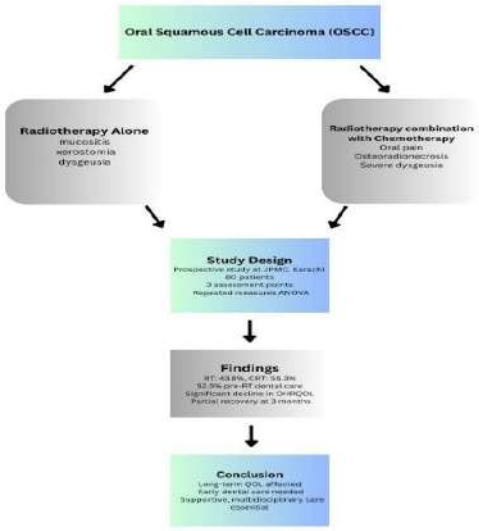
Statement of the Problem: Oral squamous cell carcinoma (OSCC) is commonly managed with radiotherapy (RT), either alone or in combination with chemotherapy (CRT). These treatments, while effective, frequently cause acute and chronic oral complications such as mucositis, xerostomia, dysgeusia, trismus, and dental caries. Such side effects impair oral function and significantly affect oral health-related quality of life (OHRQOL). Limited evidence exists on how long these impacts last following treatment, especially in South Asian populations. The objective of this study was to evaluate the effect of RT and CRT on OHRQOL in OSCC patients, measured at baseline, during the final week of RT, and three months after treatment completion.

This prospective observational study was conducted at the Department of Oral and Maxillofacial Surgery, JPMC, Karachi, over a duration of one year. A total of 80 patients with histologically confirmed OSCC were enrolled. OHRQOL was assessed using a validated questionnaire at three time points. Data on demographics, tumor site, treatment modality, and prior dental care were recorded. Repeated measures ANOVA was applied to evaluate changes in OHRQOL scores.

Of the 80 participants, 43.8% received RT alone while 56.3% underwent CRT. More than half (52.5%) had dental treatment prior to RT. Significant deterioration in OHRQOL scores was observed during the last week of RT, particularly in domains of pain, swallowing, speech, dry mouth, and social interaction. Three months post-treatment, partial recovery was observed, though some patients continued to report dysfunction in mastication and salivary flow ($p < 0.010$).

This study concludes that patients with OSCC experience a marked decline in OHRQOL during RT or CRT, with partial recovery three months after treatment. These findings emphasize the importance of early dental intervention, ongoing supportive care, and multidisciplinary follow-up to improve long-term patient outcomes and post-treatment quality of life.

Image



Recent Publications

1. Epstein JB, Thariat J, Bensadoun RJ, et al. Oral complications of cancer and cancer therapy: from pathogenesis to management. *CA Cancer J Clin.* 2012;62(6):400–422.
2. Bossi P, Numico G, et al. Prevention and treatment of oral mucositis in head and neck cancer patients treated with (chemo)radiotherapy: Literature review and consensus. *Crit Rev Oncol Hematol.* 2016;97:47–54.
3. Gupta T, Kannan S, Ghosh-Laskar S, Agarwal JP. Systematic review and meta-analyses of intensity-modulated radiation therapy versus conventional two-dimensional and/or three-dimensional radiotherapy in curative-intent management of head and neck squamous cell carcinoma. *PLoS One.* 2018;13(7):e0200137.
4. Semple CJ, Dunwoody L, Kernohan WG, McCaughan E. Changes and challenges to patients' lifestyle patterns following treatment for head and neck cancer. *J Adv Nurs.* 2015;71(3):532–544.
5. Ghosh-Laskar S, Sinha S, Chatterjee S, et al. Long-term quality of life and late toxicities in locally advanced head and neck cancers treated with intensity-modulated radiotherapy. *Head Neck.* 2021;43(5):1442–1451.



Biography

Dr. Naveed Ahmed completed his BDS from Liaquat University of Medical and Health Sciences (LUMHS) and later worked as a trainee RMO at JPMC Karachi before pursuing training in Oral and Maxillofacial Surgery, where he completed his training recently. His expertise lies in managing maxillofacial related problems including pathologies and trauma. He has experience in research, teaching, and clinical training within both hospital and academic institutions. Dr. Naveed is passionate about patient care. His work emphasizes early diagnosis, targeted interventions, and innovative approaches to improve recovery and rehabilitation outcomes for patients. Email: drnaveed500@gmail.com

Notes and Comments