

Dry Mouth and Radiotherapy

Strojan P et al. **Treatment of late sequelae after radiotherapy for head and neck cancer.** Cancer Treatment Reviews (Impact Factor: 8.589), 2017, 59:79-92 [<https://www.ncbi.nlm.nih.gov/pubmed/28759822>]

Radiotherapy (RT) is used to treat approximately 80% of patients with cancer of the head and neck. Despite enormous advances in RT planning and delivery, a significant number of patients will experience radiation-associated toxicities, especially those treated with concurrent systemic agents. Many effective management options are available for acute RT-associated toxicities, but treatment options are much more limited and of variable benefit among patients who develop late sequelae after RT. The adverse impact of developing late tissue damage in irradiated patients may range from bothersome symptoms that negatively affect their quality of life to severe life-threatening complications. **In the region of the head and neck, among the most problematic late effects are impaired function of the salivary glands and swallowing apparatus.** Other tissues and structures in the region may be at risk, depending mainly on the location of the irradiated tumor relative to the mandible and hearing apparatus. Here, we review the available evidence on the use of different therapeutic strategies to alleviate common late sequelae of RT in head and neck cancer patients, with a focus on the critical assessment of the treatment options for xerostomia, dysphagia, mandibular osteoradionecrosis, trismus, and hearing loss.

Jiang N et al. **Experiences of xerostomia after radiotherapy in patients with head and neck cancer: A qualitative study.** Journal of Clinical Nursing (Impact Factor: 1.214), 2017, doi: 10.1111/jocn.13879 [<https://www.ncbi.nlm.nih.gov/pubmed/28514511>]

AIMS AND OBJECTIVES:

To describe the experiences of radiation-induced xerostomia in patients with head and neck cancer.

BACKGROUND:

Xerostomia is the most commonly occurring complication during and following radiotherapy. It can persist for several months or years and can have a significant impact on patients' quality of life.

METHODS:

Semi-structured interviews were conducted with a sample of 20 participants.

RESULTS:

Analysis of the manifest content identified five categories: communication problems, physical problems, psychosocial problems, treatment problems and relief strategies. The latent content was formulated into a theme: **due to lack of information from professionals, the patients had to find their own solutions for their problems.**

CONCLUSIONS:

Xerostomia is not only a biophysical symptom but also has a profound effect on the emotional, intellectual and sociocultural dimensions of life. The majority of patients continued to suffer from xerostomia and its associated symptoms after radiotherapy, in part, because of a lack of professional support, including the inability of nurses to provide oral health care.

RELEVANCE TO CLINICAL PRACTICE:

Nurses need to be knowledgeable about the effects of radiotherapy on oral mucosa and about appropriate interventions. The healthcare system requires a symptom management platform for radiation-induced complications, to help patients, their families and healthcare professionals obtain information about self-care, treatments and relief strategies.

Richards TM et al. **The effect of parotid gland-sparing intensity-modulated radiotherapy on salivary composition, flow rate and xerostomia measures.**

Oral Diseases (Impact Factor: 2.011), 2017, doi: 10.1111/odi.12686

[<https://www.ncbi.nlm.nih.gov/pubmed/28434191>]

OBJECTIVES:

To describe parotid gland (PG) saliva organic and inorganic composition and flow rate changes, after curative intensity-modulated radiotherapy (IMRT) for head and neck cancer (HNC), and analyse the relationship between PG saliva analytes and xerostomia measures.

METHODS AND MATERIALS:

Twenty-six patients recruited to five prospective phase 2 or 3 trials which assessed toxicity and efficacy of IMRT by HNC subsite, provided longitudinal PG saliva. Salivary flow rate, and subjective and objective xerostomia measures were prospectively collected and saliva tested for inorganic and organic analytes.

RESULTS:

One hundred and forty-two PG saliva samples from 26 patients were analysed. At 3-6 months after IMRT, stimulated and unstimulated saliva showed significantly decreased flow rate, total protein (TP) secretion rate, phosphate concentration and increased lactoferrin (LF) concentration. Stimulated saliva alone had elevated LF secretion rate and beta-2-microglobulin (B2 M) concentration with decreased calcium (Ca²⁺) and magnesium (Mg²⁺) concentrations and Ca²⁺ secretion rate. At >12 months, under stimulated and unstimulated conditions, increased LF concentration and decreased Mg²⁺ and phosphate concentration persisted and, in stimulated saliva, there was decreased potassium (K⁺) and Mg²⁺ concentration. Unstimulated TP secretion rate was lower in the presence of high-grade xerostomia. Otherwise, no relationship between xerostomia grade and PG salivary flow rate, TP and Ca²⁺ secretion rate was found.

CONCLUSION:

Fewer significant differences in PG saliva analytes >12 months after IMRT indicate **good functional recovery**. Residual xerostomia after IMRT will only be further reduced by addressing the sparing of subsites of the PG or other salivary gland tissues, in addition to the PG.