

RADIOTHERAPY

IMRT reduces incidence of xerostomia in patients with head and neck cancer

Xerostomia ('dry mouth') is the most common side effect of head and neck radiotherapy owing to irradiation of salivary (parotid) glands. The lack of saliva impairs speech and swallowing and considerably reduces quality of life. Intensity-modulated radiotherapy (IMRT) uses imaging data to focus beams specifically on tumors, and decreases radiation exposure of surrounding healthy tissue. Now, a study has shown that IMRT reduces the incidence of xerostomia and improves quality of life of patients with head and neck cancer. After 2 years of treatment, only 29% of patients who underwent IMRT suffered from xerostomia, compared with 83% of patients who received conventional radiotherapy.

Original article Nutting, C. M. *et al.* Parotid-sparing intensity-modulated versus conventional radiotherapy in head and neck cancer (PARSPORT): a phase 3 multicentre randomised controlled trial. *Lancet Oncol.* 12, 127–136 (2011)

"IMRT should now be considered the standard of care in patients at high risk of radiation-induced xerostomia," says Chris Nutting from the Royal Marsden Hospital (London, UK), chief investigator of the trial.

In a phase III trial at six UK hospitals, Nutting and colleagues randomly assigned 94 patients with head and neck cancer to either conventional radiotherapy or parotid-sparing IMRT (60–65 Gy); the follow-up period was 24 months. Blinding of treatment allocation was not possible because of the different delivery systems used. However, the team tried to minimize potential reporting bias by performing objective saliva flow measurements. Both forms of radiotherapy led to xerostomia. When patients from each group were followed up after 12 and 24 months, grade 2 (or worse) xerostomia was significantly less frequent with IMRT. Patients who received IMRT also reported higher quality of life scores. Radiation-associated fatigue,

however, was more prevalent in the IMRT arm (74% versus 41%).

The trial was too small to detect differences in patient survival, but considering the absence of recurrences in those with spared parotid tissue, the investigators suggest that a large study to demonstrate noninferiority of IMRT to conventional radiotherapy in this tumor type might not be necessary. Or as Nutting puts it, "there is already evidence that this trial ... is changing practice in the UK and around the world."

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