



READ IT BEFORE YOUR PATIENTS

Oropharyngeal

Evaluation of substantial reduction in elective radiotherapy dose and field in patients with human papillomavirus-associated oropharyngeal carcinoma treated with definitive chemoradiotherapy

C. Jillian Tsai, Sean M. McBride, Nadeem Riaz, Jung J. Kang, Daniel J. Spielsinger, Todd Waldenberg, Daphna Gelblum, Yao Yu, Linda C. Chen, Kaveh Zakeri, Richard J. Wong Lara Dunn, David G. Pfister, Eric J. Sherman, Nancy Y. Lee

JAMA Oncol. 2022;8(3):364-372. doi:10.1001/jamaoncol.2021.6416

IMPORTANCE

Several de-escalation strategies for human papillomavirus (HPV)-associated oropharyngeal carcinoma (OPC) have focused on de-intensifying gross disease treatment. Reduction of radiotherapy dose and target volume to subclinical regions may achieve good clinical outcomes with favourable patient quality of life (QOL).

OBJECTIVE

To determine outcomes from a systematic approach of reducing radiotherapy dose and target volume to the elective treatment regions in patients with HPV-associated OPC undergoing concurrent chemoradiotherapy (CCRT).

DESIGN, SETTING, AND PARTICIPANTS

This retrospective cohort study included 276 consecutive patients with HPV-positive OPC receiving CCRT from 1 March 2017 to 31 July 2019. Data were analysed from 23 February to 13 September 2021.

INTERVENTIONS

Elective nodal and subclinical regions received 30 Gy of radiotherapy in 15 fractions, followed by a cone down of 40 Gy in 20 fractions to gross disease for a total dose of 70 Gy. The high retropharyngeal nodal basins in the node-negative neck and bilateral levels IB and V basins were omitted.

MAIN OUTCOMES AND MEASURES

Patients were followed up to evaluate locoregional control as the primary outcome and distant metastasis-free survival, progression-free survival, and overall survival as secondary outcomes. Quality-of-life data were obtained at each visit when feasible.

RESULTS

Among the 276 patients included in the analysis, the median age was 61 (range, 36-87) years; 247 (89.5%) were men; and 183 (66.3%) had less than 10 pack-years of smoking history. Most patients (251 [90.9%]) were White. Overall, 87 (31.5%) had cT3-cT4 disease and 65 (23.5%) had cN2-cN3 disease per the 8th edition of the American Joint Committee on Cancer Staging Manual. One hundred seventy-two patients (62.3%) completed 300-mg/m² high-dose cisplatin therapy. During a median follow-up of 26 (range, 21-32) months, eight patients developed locoregional recurrence, including seven at the primary site or gross nodes that received

a total dose of 70 Gy and one with a persistent node not previously identified as gross disease that received a total dose of only 30 Gy. The 24-month locoregional control was 97.0%; progression-free survival, 88.0%; distant metastasis-free survival, 95.2%; and overall survival, 95.1%. During treatment, 17 patients (6.2%) required a feeding tube. At 24 months, most of the QOL composite scores (jaw-related problems, pain, social contact, eating, speech, and swallow) were comparable or superior to baseline measures except for senses, dry mouth, muscular tension, and cognitive functioning, which improved over time but remained marginally worse than baseline.

CONCLUSIONS AND RELEVANCE

This cohort study found that the evaluated de-escalation strategy for elective regions showed favourable clinical outcomes and QOL profiles. Long-term follow-up data will help affirm the efficacy of this strategy as a care option for treating HPV-associated OPC with primary CCRT.

