Head and Neck

Eliminating Postoperative Radiation to the Pathologically Node-Negative Neck: Long-Term Results of a Prospective Phase II Study


PURPOSE

The volume treated with post-operative radiation therapy (PORT) is a mediator of toxicity, and reduced volumes result in improved quality of life (QOL). In this phase II trial, treatment volumes were reduced by omitting PORT to the pathologically negative (PN0) neck in patients with primary head and neck squamous cell carcinoma.

METHODS

Patients with head and neck squamous cell carcinoma who underwent surgical resection and neck dissection with a PN0 neck and high-risk features mandating PORT to the primary and/or involved neck were eligible. The primary end point was greater than 90% disease control in the unirradiated neck. QOL was evaluated using the MD Anderson Dysphagia Inventory and the University of Michigan patient-reported xerostomia questionnaire.

RESULTS

Seventy-three patients were enrolled and 72 were evaluable. Median age was 56 years (range, 31 to 81 years); 58 patients were male, and 47 (65%) had a smoking history. Sites included oral cavity (n = 14), oropharynx (n = 37), hypopharynx (n = 4), larynx (n = 16), and unknown primary tumour (n = 1). According to the American Joint Committee on Cancer Staging Manual (7th edition), 67 patients (93%) had stage III/IV disease, and 71% of tumours involved or crossed midline. No patient had contralateral neck PORT. In 17 patients (24%), only the primary site was treated. At a median follow-up of 53 months, two patients experienced treatment failure of the PN0 unirradiated neck; they also experienced treatment failure locally. Unirradiated neck control was 97% (95% CI, 93.4% to 100.0%). Five-year rates of local control, regional control, progression-free survival, and overall survival were 84%, 93%, 60%, and 64%, respectively. QOL measures were not significantly different from baseline at 12 and 24 months post-PORT (P > .05).

CONCLUSION

Eliminating PORT to the PN0 neck resulted in excellent control rates in the unirradiated neck without long-term adverse effects on global QOL.