Swallowing Function after Altered Fractionation Radiotherapy for Head and Neck Carcinoma

KH Yu, M Chua, AC Vlantis, MKM Kam, WY Lee, RKY Tsang, HY Yuen, EP Hui, ATC Chan

Department of Clinical Oncology, The Chinese University of Hong Kong, Prince of Wales Hospital, Hong Kong, Department of Radiation Oncology, Peter MacCullum Cancer Centre, Melbourne, Australia, Department of Surgery, and Department of Diagnostic Radiology and Organ Imaging, The Chinese University of Hong Kong, Prince of Wales Hospital, Hong Kong

ABSTRACT

Objective: To investigate swallowing function outcome in patients with head and neck cancer who received altered fractionation radiotherapy.

Patients and Methods: Forty nine patients with bulky T2 tumours or American Joint Committee on Cancer stage III/IV disease were treated with accelerated radiotherapy with concomitant boost to 72 Gy-80 Gy or hyperfractionated accelerated radiotherapy to 76.8 Gy. The pre- and post-radiotherapy swallowing dysfunction were scored with a physician-rated scale of grade 0 (normal) to 4 (severe impairment). The Wilcoxon signed rank test was used to compare pre- and post-radiotherapy scores in patients who did not have local failure or a second head and neck primary.

Results: At a median follow-up of 15.7 months (range, 3.7 to 66.0 months), 9 patients had developed permanent grade 3/4 swallowing dysfunction. This was associated with local failure in 8 patients. The 1-year actuarial permanent grade 3/4 swallowing dysfunction-free survival was 93% for the whole patient series. Of 26 patients (53%) who did not develop local failure or a second head and neck primary, the worst late swallowing dysfunction scores (mean, 0.81; median, 1) were significantly higher than the pre-radiotherapy scores (mean, 0.23; median, 0; p = 0.0016).

Conclusions: Permanent severe swallowing dysfunction was uncommon during early follow-up in local failure-free patients who received curative altered fractionation radiotherapy for locoregionally advanced head and neck carcinoma.

Key Words: Accelerated radiotherapy, Head and neck carcinoma, Hyperfractionated radiotherapy, Swallowing function