

Neoadjuvant chemo-radiotherapy for locally advanced esophageal cancer: a monocentric study

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ABSTRACT

Aims and background. Multimodal therapy is a keystone of care in advanced esophageal cancer. Although neoadjuvant chemoradiotherapy is known to provide a survival advantage in selected cases, reliable prognostic and response predictive factors remain elusive. We report the outcome in a series of esophageal cancer patients treated at our center and the results of a retrospective analysis of epidermal growth factor receptor (EGFR) expression and EGFR/HER2 gene copy numbers taken as possible prognostic and predictive factors.

Methods and study design. Between 2001 and 2009, a total of 40 consecutive patients (34 men and 6 women; median age, 59 years) were treated for esophageal cancer. Treatment: cisplatin, 80 mg/m² day 1, and 5-fluorouracil, 800 mg/m²/24 h on days 1-5, every 21 days, concomitant with 3D-conformal radiotherapy (54-59.4 in 30-33 fractions) for three up to four cycles. Surgery was performed in eligible patients 6-8 weeks after chemoradiation. EGFR expression and EGFR/HER2 amplification and gene copy number were studied by immunohistochemical analysis and fluorescence *in situ* hybridization, respectively.

Results. Acceptable toxicity following chemoradiation was recorded, with G3-G4 hematological toxicity in 20% of patients and G3-G4 dysphagia in less than 10%; 14 (35%) patients achieved complete response and 19 (48%) partial response; 18 underwent surgery after chemoradiation, of which 8 (20%) achieved pathologic complete response. The median survival was 29 months (95% CI, 25.7-32.1); 42 months for the resected and 20 for the unresected patients. EGFR and HER2 analysis in 28 patients showed that 89% had immunohistochemical EGFR expression, with 5 cases of EGFR and 10 of HER2 gene gain without a significant difference in response rate and survival in these patient subgroups.

Conclusions. Our results suggest a better outcome in patients who underwent surgery after chemoradiation. A larger sample size is necessary to clarify the role of EGFR and HER2 gene gain in predict response and survival.

Key words: chemotherapy, esophageal cancer, radiotherapy.

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