

Does postoperative radiotherapy compensate for microscopic margin involvement in the squamous cell carcinoma of esophagus?

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Introduction and background: Despite progress in oncology, prognosis of esophageal cancer still remains dismal compared to other cancers. There were efforts to improve the curative potential of surgery, but microscopically positive resection margin rate is not infrequent and prognosis of these patients is considered inferior to that of patients with negative resection margin. So many guidelines suggest postoperative radiotherapy for these patients without solid evidence.

Purpose: To assess the effect of postoperative radiotherapy on the outcome of patients with esophageal cancer with microscopically positive resection margin by comparing the results to that of patients with negative resection margin.

Patients and Methods: Medical records of 88 patients treated with macroscopic resection followed by postoperative radiotherapy for stage II or III squamous cell carcinoma of esophagus from June 1984 to March 2008 were retrospectively reviewed. Twelve patients had received chemotherapy. Patients were classified into three groups based on resection margin status: negative resection margin (Group A, 66 patients), microscopically positive resection margin (Group B, 22 patients). Median follow-up duration was 26.2 months (range, 4~141). Median total radiation dose of Group A and B were 51.5 Gy (range, 45~69) and 52.1 Gy (range, 45~64), respectively.

Results: Median overall survival and disease-free survival were 15 and 10 months, respectively. The 5-year overall, disease-free, and loco-regional recurrence-free survival rates of Group A and B were 15.9%, 16.4%, 13.5%, 9.1%, 59.3%, 50.6%, respectively. There was no statistically significant difference between group A and B in terms of overall survival, disease-free survival, and loco-regional recurrence-free survival ($p=0.295$, 0.209 , 0.620 , respectively). Seven patients experienced grade 3 or higher toxicity.

Conclusions: After postoperative radiotherapy, difference in treatment results of patients with or without microscopic residuum was statistically insignificant. Thus, postoperative radiotherapy may play role especially for patients with margin involvement. However, as treatment results are far from satisfactory, further treatment intensification should be considered.