



Combined Chemoradiotherapy vs. Radiotherapy Alone for Early Squamous Cell Carcinoma of the Esophagus: A Study of the Eastern Cooperative Oncology Group

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Background

The treatment of esophageal cancer is controversial. Surgery, radiotherapy and chemotherapy are all effective but questions remain regarding which of these treatment modalities to use and in what order. Traditionally, radiation therapy was recommended without chemotherapy but the results were very poor. This prompted several large studies to examine what effect if any adding chemotherapy to radiotherapy would have on patient survival. In 1982 the Eastern Cooperative Oncology group (ECOG) initiated such a trial, the results of which are reported in the September 1, 1998 issue of the International Journal of Radiation Oncology, Biology and Physics.

Methods

One hundred and nineteen patients with squamous cell carcinoma of the esophagus were enrolled and randomly assigned to treatment with either radiation alone or radiation and chemotherapy. Following four weeks of treatment patients were re-evaluated and considered for surgery. Surgery was offered only to patients who had tumor confined to the esophagus (i.e., not invading adjacent structures and without distant metastasis). Patients who did not opt for surgery continued to receive more radiation and- if randomized to chemotherapy- more chemotherapy. Patients with poor performance status (defined as spending greater than 50% of the day in bed) were excluded from entering the study.

Radiation doses were 40 Gray for patients receiving surgery and 60 Gy if no surgery. Chemotherapy consisted of one or two cycles of bolus mitomycin and continuous infusion 5-fluorouracil (one cycle for surgical patients and two for all others). Sixty patients were randomized to the radiation alone arm and fifty-nine to the chemotherapy+radiotherapy arm. The two treatment arms were well balanced with respect to patient characteristics such as nodal disease, performance status, sex and weight loss. Approximately one-third of patients on both arms received surgery following four weeks of treatment.

Results

The median survival time for all patients was just under one year. Those patients who received chemotherapy had significantly better survival compared to those receiving just radiotherapy (14.9 vs. 9.2 months). However, the percent of patients surviving at five years was not significantly different between the groups (7% versus 9%). The authors also examined the subset of patients who underwent surgical resection and found the addition of surgery did not significantly prolong overall survival.

Discussion

These results are similar to those found by the Radiation Therapy Oncology Group, supporting the use of chemotherapy along with radiation in the treatment of esophageal cancer. The lack of benefits gained from surgical extirpation will need further investigation before conclusions can be reached regarding the value of surgery in the treatment of esophageal cancer.

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