Chemoradiotherapy Followed by Surgery Compared with Surgery Alone in Squamous-cell Cancer of the Esophagus

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This article reports the findings of a multicenter randomized prospective trial initiated in 1981 by the European Organization for Research and Treatment of Cancer (EORTC). This study looked at surgery alone versus chemotherapy and radiotherapy followed by surgery for patients with squamous cell carcinoma of the esophagus. Nearly 300 patients entered the study. Half of these patients received surgery only. The other half received 80 mg of cisplatin followed by 37Gy of radiation and then surgery (trimodality treatment). The median follow-up for all patients was close to five years.

The study found no difference in overall survival between the two groups. The median survival in both groups was the same, 18.6 months. However, death due to esophageal cancer was significantly less in the trimodality group. 86% of the patients in the surgery alone group had died of esophageal cancer compared with 67% in the trimodality group. The overall survival was the same in both groups because significantly more patients in the trimodality arm died of complications from surgery. Results that indicate an efficacy of chemotherapy and radiotherapy in squamous cell cancer of the esophagus include a longer disease free survival, a longer interval free of local disease and a higher frequency of curative resection in the trimodality group.

Despite the lack of a difference in overall survival, the results from this study confirm what other similar studies that have shown; chemotherapy and radiotherapy can be of benefit in patients with esophageal cancer. In 1996, the NEJM published a similar study from Ireland, which showed a significant survival benefit to pre-operative chemotherapy and radiotherapy for patients with adenocarcinoma of the esophagus. Several factors may explain why the present study did not find the pre-operative regimen to benefit patients in terms of prolonged survival: The deleterious effect of a high dose per fraction of radiotherapy (3.7Gy compared with conventional fractions of 1.8-2.0Gy), a break of two weeks between two courses of 18.7 Gy and the use of cisplatin alone as a single chemotherapy agent. Several smaller trials using conventional radiotherapy doses and more than a single chemotherapy agent have found improvements in overall survival when compared to historical controls.

For further information on esophageal cancer please see OncoLink's Esophageal Cancer Menu.