Chemotherapy Followed by Surgery Compared with Surgery Alone for Localized Esophageal Cancer

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Source: esophageal cancer have micro-metastasis (disease in parts of the body distant from the esophagus that are not detectable on routine screening) at presentation, the addition of chemotherapy to either surgery or radiotherapy seems warranted. This thinking was confirmed with respect to radiation in a randomized trial in which 5FU (5-Flourouracil) and cisplatin given during and following radiation increased survival compared to radiation alone. However, the benefit of chemotherapy in combination with surgery is less clear. In the December 31, 1998 issue of the New England Journal of Medicine, a multi-institutional randomized trial of chemotherapy and surgery versus surgery alone is reported.

Materials and Methods

Patients were randomly assigned to either surgery alone or three cycles of chemotherapy (cisplatin and 5FU) followed by surgery and two more cycles of chemotherapy post-operatively. Patients underwent the same surgical procedure in both groups. Four hundred forty patients were enrolled; slightly over half of them had adenocarcinoma. Acceptable procedures included the procedures listed below:

1. **Ivor Lewis Esophagectomy** (named after British surgeon Dr. Ivor Lewis who described this procedure in 1940s): Right thoracotomy and laparotomy. The anastamosis lies in the chest.

2. **Total Thoracic Esophagectomy**: Same as Ivor Lewis with a neck incision. The anastamosis lies in the neck.

3. **Transhiatal Esophagectomy**: The esophagus is bluntly dissected from above through a neck incision and below through a laparotomy. There is no thoracotomy. The anastamosis lies in the neck.

4. **Thoracoabdominal Esophagectomy**: One incision extending from the left thorax into the abdomen. The anastamosis lies in the chest.

Results

The overall response rate to chemotherapy was 19%. The chemotherapy was reasonably well tolerated. There were similar rates of surgical morbidity and mortality on both study arms. The median survival time for both groups was similar. Those receiving surgery alone had a median survival of 16 months compared to 15 months for patients receiving chemotherapy. The percent of patients surviving at two years was also similar: 35% for the chemotherapy group and 37% for the surgery alone group. Chemotherapy did not alter the rates of local or distant recurrence.

Conclusions

The addition of chemotherapy did not improve the survival rate over surgery alone in patients with cancer of the esophagus. This result disappointed many in the cancer field because chemotherapy had previously been shown to be effective concurrent and following radiotherapy. In addition, other trials have found chemotherapy to be effective with surgery. The authors speculate the ineffectiveness of chemotherapy in this trial may be due to inadequate dose intensity of chemotherapy, noting that only two-thirds of the patients received all the planned cycles.