An audit of combined modality therapy for esophageal squamous cell carcinoma from a teaching hospital in Iran

Loco-regional failure has been the main cause of treatment failure after surgery for esophageal carcinoma. Combined modality approaches have been assessed in attempts to improve the results of surgery. Some retrospective and prospective randomized studies have shown improved survival with postoperative radiotherapy. However, other prospective randomized studies showed improvement in loco-regional control without survival benefit after postoperative radiation. Detrimental effect of post operative radiotherapy on survival has also been reported. We retrospectively reviewed the results of radical surgery and postoperative treatments for esophageal carcinoma in our institute.

Between April 2000 and April 2003, 332 patients with non-metastatic esophageal SCC were treated at our center (190 definitive chemoradiotherapy, 75 neoadjuvant chemoradiotherapy plus surgery, 67 surgery plus adjuvant therapy). Records of patients who had undergone curative esophagectomy for lower or middle non-metastatic esophageal SCC were analyzed in March 2007. Pretreatment work-up included routine laboratory tests, chest radiography, computed tomography and/or ultrasonography of the upper abdomen.

All patients with T3-4 tumors and/or lymph node metastasis underwent postoperative radiotherapy. Radiotherapy was started 4-6 weeks after surgery using the Cobalt 60 unit. The radiotherapy schedule was to deliver 50-50.4 Gy in 1.8-2 Gy fraction sizes to the whole mediastinum and celiac lymph nodes, starting with AP/PA fields to 36-40 Gy and then continuing with the three-field technique to spare the spinal cord. SuprACLAVicular lymph nodes were not electively treated. After termination of radiotherapy, at least three courses of chemotherapy with cisplatin and 5-FU were administered to patients who were compliant and had good performance status. Cisplatin 30 mg/m² and bolus 5-FU 500 mg/m² were given intravenously for three consecutive days every three weeks. Patients were followed every two months for the first year and every three months thereafter. Chest radiography, ultrasonography or computed tomography of upper abdomen, endoscopy and blood chemistry were done as clinically indicated.

Disease-free survival (DFS) was assessed from the date of diagnosis to the date of recurrence (local or distant) or of death for any reason. Patients were considered dead if they were in poor general condition at the last visit and failed to follow-up.

Data are presented as median (range). Kaplan-Meier method was used for calculation of survival, and the log-rank test for the comparison of survival curves between different groups.

Records of sixty-seven eligible consecutive patients (31 men) aged 61 (37-85) years were analyzed. Tumors were located in the middle and lower esophagus in 18 and 49 (73.1%) patients, respectively. Transthoracic and transthiatal esophagectomy had been performed in 24 and 43 patients, respectively. No lymph nodes were available for pathological examination in seven patients. The number of dissected lymph nodes was 6 (1-15).

Tumor stage was $T_2N_0$, $T_3N_0$, $T_2N_1$ and $T_3N_{1,X}$ in 8, 19, 5 and 35 cases, respectively. Radiotherapy was administered to 59 patients (stage $T3/N1$) with a total dose of 5040 (4500-5500) cGy. Two $T2N0$ cases did not receive any adjuvant treatment. There was no major toxicity with radiotherapy and all patients completed the treatment schedule. Thirty-eight patients received chemotherapy. The number of chemotherapy courses was 5 (3-6). None of our patients who received chemotherapy developed neutropenic fever that required hospital admission.

During a follow-up of 18 (3-75) months, we recorded 13 recurrences. Fifty four patients were alive and disease free at last follow-up. No recurrence was recorded in $T2N0$ patients. The sites of recurrence were as follows: 8 distant metastasis (3 lung, 3 bone, 2 liver) and 5 locoregional failures (2 supraclavicular lymph nodes, 2 celiac lymph nodes, 1 anastomosis). The 1, 2 and 3-year DFS rates of patients were 86.4%, 76.9% and 73.1%, respectively. The DFS rate was significantly better in node-negative cases as compared to node-positive patients, and in cases receiving chemotherapy (Table).

The number of local recurrences in our series reflects the efficacy of post-operative radiotherapy in achieving local disease control in SCC. Similar results have been documented in other studies. In a randomized study of 549 patients with esophageal SCC who had undergone radical resection, Xiao et al showed that postoperative radiotherapy not only reduced intrathoracic recurrences in all patients but also improved survival in node-positive cases. Other studies have shown that patients with lymph node positive status have poorer outcome.

Fok et al randomized 130 patients with esophageal cancer to surgery alone versus surgery plus post-opera-


Letters


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References