Results of Neoadjuvant Radiochemotherapy in Advanced Oral-cavity Tumours

a report by

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Standard treatment in advanced oral-cavity tumours is radical surgery followed by adjuvant radiation therapy or definitive radiochemotherapy alone. For some years now, neoadjuvant radiochemotherapy with subsequent surgery has been gaining more interest. In rectal cancer, oesophageal cancer or anal carcinoma, it has turned into the treatment of choice.

In the author’s institution, the role of neoadjuvant radiochemotherapy for the treatment of advanced oral-cavity tumours was investigated according the guidelines of the German-Austrian-Swiss Council for maxillary and facial tumours (DÖSAK). Special interest was focused on the long-term effectiveness of this treatment regimen, but also on the toxicity and the gained quality of life.

Patients and Methods

Between 1993 and 1998, 52 patients with advanced oral-cavity tumours were treated. There were 44 males and 8 females at a mean age of 63 years. The most frequent tumour sites were the floor of the mouth (16) and mandible (10), and 15 patients had polytopic manifestations. Thirty-nine patients (75%) had a T4-stage tumour (see Figure 1), 49 were nodal-positive (94%) and 33 patients had a G3-tumour. In 60% of the cases, difficulties in swallowing led to the final diagnosis; in a further 27%, pain was reported. In the patient history, at least 87% of patients either were smokers or consumed alcohol; in 46%, a combined misuse was apparent.

Radiotherapy was performed up to a total dose of 36Gy at single doses of 2Gy, five fractions a week. Radiotherapy was combined with one cycle of cisplatin (12.5 mg/sqm, days one to five) chemotherapy. Radical surgery was performed approximately three weeks after completion of radiochemotherapy. The tumour was resected with a security margin of 1cm; lymph nodes were removed with a neck dissection. Forty-eight patients underwent radical surgery: in 41 cases with R0-status, two patients (4.9%) had an R1-resection and five patients had an R2-resection. Patients underwent radical surgery: in 41 cases with R0-status, two patients (4.9%) had an R1-resection and five patients had an R2-resection. Patients with R1- or R2-status, N2 nodal involvement or lymphangiosis carcinomatosa continued radiotherapy up to a total dose of 66–70Gy.

Twenty-two patients continued radiotherapy after surgery; 30 patients had only follow-up examinations. All of the patients were followed up in the author’s institution and in the facial surgery department. Quality of life was scored in orientation to the Eastern Co-operative Oncology Group (ECOG) score by an individual scaling of the general performance status and the capability to speak and swallow.

Pre-operative radiochemotherapy in advanced oral-cavity carcinomas with subsequent radical surgery is an effective treatment in terms of long-term survival.

Results

Three years after therapy, 33 of 52 patients (63.5%) were alive, and after five years 19 of 33 evaluable patients (57.6%) were still alive. There was a steep decline in survival rate between the first and the second year in follow-up, from 83 to 67% overall survival.

Divided in orientation to negative prognostic factors leading to continuation of radiotherapy, 22 of 30 only pre-operatively treated patients (73.3%) survived more than five years, whereas only 8 of 22 patients (36.4%) treated post-operatively by radiotherapy or not radically resected patients survived five years. Seven patients (14.6%) had a local recurrence. Six of seven local recurrences occurred in the first two years after surgery in the original tumour site. Related to the number of R0-resections, in only four of 41 cases (9.8%) the tumour locally-recurred.

Side effects of radiotherapy according to Radiation Therapy Oncology Group (RTOG) scoring were minor: only one patient (1.9%) had grade 3 toxicity. Of 48 patients, nine (18.7%) had no surgical complications. In 39 patients, however, there were surgical complications such as necrosis, inadequate wound healing or severe infection. Long-term quality of life was good in only 14 patients (29.2%); all the other patients (70.8%) suffered from impaired quality of life. The main problems were difficulties in speaking and pronunciation (69%), swallowing (60%) and reduced performance status (39%).

Discussion

Pre-operative radiochemotherapy in advanced oral-cavity carcinomas with subsequent radical surgery is an effective treatment in terms of long-
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Table 1: Survival Rates after Neoadjuvant Radiochemotherapy

<table>
<thead>
<tr>
<th>Survival Rate</th>
<th>Number of Patients</th>
<th>Survival Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
<td>43 of 52</td>
<td>82.7%</td>
</tr>
<tr>
<td>2 years</td>
<td>35 of 52</td>
<td>67.3%</td>
</tr>
<tr>
<td>3 years</td>
<td>33 of 52</td>
<td>63.5%</td>
</tr>
<tr>
<td>5 years</td>
<td>19 of 33</td>
<td>57.6%</td>
</tr>
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and therefore be augmented by data concerning therapy-related toxicity and long-term quality of life in our patients.