Preoperative Radiochemotherapy and Radical Surgery of Advanced Head and Neck Cancers – Results of a Prospective, Multicenter DÖSAK Study


Introduction

Present research concerning the efficacy of therapeutic strategies for squamous cell carcinomas of the oral cavity and the oropharynx profits from former observational studies. The so-called retrospective German, Austrian, and Swiss Association for Head and Neck Tumors (DÖSAK) study (Platz et al. 1986) served to review existing proposals for classification (UIICC 1973, 1978; AJC 1978) and to develop a statistical classification which enables the head and neck oncologist to define prognostically homogeneous patient collectives. The treatment-dependent prognostic index (TPI) was the corresponding result (Platz et al. 1982).

The subsequent prospective DÖSAK study gave the opportunity of applying and analyzing this new classification on an independent patient
collective. Despite minor differences from the first study, this prospective study confirmed the high degree of accuracy of the TPI to determine individual and collective prognoses (Platz et al. 1989). In consequence of these studies, the DÖSAK has proposed the TPI as an alternative to the Tumor Node Metastases (TNM) system, which does justice to the demands of clinical studies. The survival analysis of our following study therefore relates to this TPI classification.

The preceding two DÖSAK studies had failed to establish a positive effect of any combined treatment modality when compared with radical surgery alone. The appertaining survival curves after isolated surgical treatment are, therefore, suitable as a basis of evaluation for alternative treatment strategies. On the other hand, we had observed encouraging results with an interdisciplinary treatment regimen for incurable head and neck tumours in Essen (Schmitt et al. 1983). Therefore, our regional cooperative group decided to transfer this strategy to advanced, but operable, squamous cell carcinomas of the oral cavity and the oropharynx. The following results were obtained by prospective, multicenter, interdisciplinary cooperation of radiotherapists and maxillofacial surgeons at the Universities of Kiel, Hanover, Mainz, Würzburg, and Essen.

**Material and Methods**

From January 1985 to December 1987, 165 patients were entered into the study. The follow-up period lasted from March 1985 to May 1991. Only patients with advanced, primary, biopsy-proven squamous cell carcinomas of the oral cavity and the oropharynx without distant metastasis were eligible for the study. A minimal tumor size of 2 cm was required. The stage of regional lymph nodes was not fixed. Because of their supposed better prognosis, lip carcinomas were excluded. Only those patients in a condition to undergo radical surgical treatment and without contraindications against cisplatin were included in the study.

The preoperative treatment consisted of 32 Gy (5 × 2 Gy per week) from a supervoltage source, applied to the primary tumor and to both sides of the neck as far as the clavicles. During the first week of treatment, the patients also received cisplatin in a daily dose of 20 mg/m² body surface. Radical surgery was carried out after a delay of 10–14 days.

Complete, prospectively documented data were centrally collected in Essen and analyzed in the following manner: first, a descriptive evaluation of all data consisting of one-dimensional frequency counts and cross tables was performed. Second, the prognostic relevance of each clinical, therapeutic, and histopathological factor according to recurrence and survival was investigated in isolation. For graphic presentation, the product-limit method was selected (Kaplan and Meier 1958). Comparison of survival curves was