

edition compared to 7.5% (overall), 8.6% (asians), and 7.6% (caucasians) for the 5th edition. Balance was considerably better for 5th than the 4th edition across all subgroups.

Conclusions: These data strongly indicate that the 5th edition TNM performs better overall, and for both asian and caucasian groups compared to the 4th edition TNM in a single institution outside Southeast Asia. Race and histology did not add independent prediction of outcome by stage in this series.

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POSTER

Radiotherapy for oropharyngeal cancer. Results from 1998 to 2001 with emphasis on the correlation between treatment technique and side effects

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Introduction: January 1999 we changed strategy in our treatment of small lateralized oropharyngeal and oral cancers (retromolar trigone, anterior faucial pillar and tonsil without involvement of the floor of the mouth, tongue muscle and soft palate) and unilateral lymph node involvement, from bilateral parallel opposed fields to one of oblique wedged unilateral fields, treating only the ipsilateral elective lymph nodes.

Methods: The investigated population consists of all patients referred to our department for treatment of oropharyngeal cancer between January 1st 1998 and December 31st 2001. After treatment the patients entered follow up and side effects was continuously registered according to normal DAHANCA procedure. In the investigated period we received 115 patients with oropharyngeal cancer. There were 81 (70%) males 34 (30%) females. One hundred and four (90%) was treated with curative intent. Radical treatment was planned on our dose planning system (Helax TMS). The standard regimen included a total radiation dose of 66-68 Gy to tumor planning target volume and 46-50 Gy to elective lymph nodes, 6 fractions per week, 2 Gy pr. fraction, and nimorazole. Patients were treated on a linear accelerator using 4-6 MV. Ipsilateral treatment consisted of 2 wedged fields was given to 31 patients. Bilateral treatment (73 patients) consisted of two opposing beams for the large fields and opposing orthogonal or oblique fields for the boost.

Results: Stage distribution was not significantly different between the ipsilateral and the bilaterally treated group (St. I: 0%/ 4% St. II: 23%/ 20% St. III: 32%/ 31% and St. IV: 45%/ 46% respectively). There was a significant difference in xerostomia ($p < 0.001$) with moderate or severe xerostomia in 52% of the unilateral treated and 89% of the bilateral treated patients. Dysphagia was significant or intense for 51% and 80% respectively. This result was also significant ($p < 0.021$) in favor of unilateral treatment. In the unilateral treated group there was no nodal recurrence in the contralateral lymph node regions. There was 4 recurrences among the 31 unilaterally treated patients: One recurrence in the contralateral base of tongue in a patient with midline-structure involvement, one recurrence in primary involved N-site after CR, one PR at N site and one patient recurred with distant metastasis and out of field lymph node metastasis. These patients are dead from disease.

Conclusion: Unilateral radiotherapy of selected cancers in the tonsillar region seems safe concerning local control and survival and more lenient concerning xerostomia and dysphagia.

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POSTER

Accelerated postoperative radiation therapy with weekly concomitant boost in patients with advanced head and neck cancer

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We wanted to assess the feasibility and efficacy of accelerated weekly 6 fractionated 66-Gy postoperative radiation therapy (PORT) using a single fraction regimen from Monday to Thursday and a concomitant boost in the Friday afternoon sessions in patients with advanced head and neck cancer (AHNC). Between December 1997 and June 2002, 89 (male to female ratio: 68/21; median age: 60 years [range: 36-81]) consecutive patients (refusing to participate or ineligible for the EORTC 22931 study comparing PORT vs. PORT plus chemotherapy) with pT1-pT4 and/or pN0-pN3 AHNC (28 oropharynx, 26 oral cavity, 18 hypopharynx, 6 larynx, 5

unknown primary, 4 salivary gland, and 2 paranasal sinus) were included in this prospective study. PORT was indicated because surgical margins were not free of tumor ($n = 22$) or for T4 tumors ($n = 4$) in 26 (29%) patients; or because of extranodal infiltration with ($n = 33$) or without ($n = 30$) positive surgical margins in 63 (71%) patients. Median interval between surgery and RT was 6 weeks (3-15). RT consisted of 66 Gy (2 Gy/fr.) in 51/2 weeks. Median RT duration was 39 days (range: 35-67). Prophylactic percutaneous endoscopic gastrostomy was applied in 26 (29%) patients. Median follow-up was 21 months (range: 2-59). All but one patient (not finishing the treatment because of non treatment-related reasons at 56 Gy) received the planned total dose without unplanned interruption. Acute morbidity was acceptable: grade 3 mucositis in 20 (22%) patients, grade 3 dysphagia in 22 (25%) patients, grade 3 skin erythema in 18 (20%) patients. Median weight loss of was 2 kg (range: 0-14.5). No grade 4 toxicity was observed. Considering the late effects, grade 0, 1, 2, or 3 xerostomia was observed in 15 (17%), 57 (64%), 11 (12%), and 6 (7%) patients, respectively; grade 0, 1, 2, and 3 edema in 29 (33%), 46 (52%), 12 (13%), and 2 (2%) patients, respectively. Median time to locoregional relapse was 10 months (range: 2-21); only 4 (4%) local and 9 (10%) regional relapses were observed, and 18 (20%) patients developed distant metastases (all locally controlled but with regional relapses in 4 cases). The 2-year overall, cause-specific, and disease-free survival rates were 70%, 75%, and 63%, respectively; and 2-year actuarial-local and locoregional control rates were 94% and 80%, respectively. Distant metastasis probabilities at 2 and 4 years were 20% and 38%, respectively. Univariate analyses revealed that pT-stage, 3 or more lymph node metastases, and extranodal extension in 2 or more lymph nodes were significant. Multivariate analysis (Cox model) revealed that pT-stage (pT1, 2 vs. pT3, 4) and extranodal extension (0, 1 vs. 2 or more) were the two factors independently influencing the outcome. We conclude that reducing the overall treatment time using accelerated PORT by weekly concomitant boost (6 fractions per week) is easily feasible with excellent local control. Acute and late RT-related morbidity is highly acceptable. Given the disease progression pattern (distant metastases), adjuvant chemotherapy should be considered.

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POSTER

Late normal tissue sequelae and performance status with brachytherapy or surgery in tonsillar fossa and soft palate tumors. Can we be more selective?

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Background: This paper focuses on late normal tissue sequelae and functional performance in tonsillar fossa (TF) and soft palate (SP) tumors. Arguments are presented for a more selective treatment strategy while maintaining excellent tumor control.

Materials/Methods: From 1986-2001, T1-3 TF/SP tumors were treated by ERT to the primary and neck, followed by HDR-BT (primary tumor) and a neck dissection (ND) in case of N+ disease (BT-group; 104 patients). If BT is not feasible, surgery is performed with postoperative ERT (S-group; 86 patients). Local control (LC), regional control (RC), disease free survival (DFS) and overall survival (OS) were calculated according to Kaplan Meier. Late side effects are scored by RTOG criterion. Univariate (UV)- and multivariate (MV) Cox regression analyses were performed for regional failure (RF) and late mucosal side effects (ulcer), with parameters sex, age, site, T/N-stage, modality, dose, and OTT. To determine Performance Status Scores (PSS), a survey was conducted among patients alive and NED after a minimum of 2 years of FU (BT-group 30; S-group 27). A research nurse interviewed patients regarding eating in public (EPub), normalcy of diet (NDiet), understandability of speech (USpeech) and xerostomia (visual analogue score [VAS] and 4 validated queries).

Results: Control percentages BT vs. S: LC 88 vs.88, RC 93 vs.85, DFS 57 vs.52, OS 67 vs.57. MV-analysis for RF was significant for T2 vs.T3 (HR 0.09, 95% CI 0.01-0.83) and for dose neck > 46 Gy (HR 8.7, 95% CI 1.3-57.1). Late side effects BT vs. S: Ulcer 39% vs.7%, trismus 1% vs.21%. MV-analysis for ulceration was significant only for BT (HR 4.1, CI 1.6-10.5). Ulcers showed complete healing in 88% (median duration 6 months). Median PSS BT vs. S: Epub, 50 vs. 50 ($p=0.97$), NDiet, 50 vs. 60 ($p=0.89$), USpeech, 100 v. 75 ($p=0.34$). Xerostomia: median VAS 5.5 (BT; range 0-10) and 6 (S-group; range 2-10). In the majority of the BT (72%) and S (73%) patients the answers to the 4 standardized queries were associated with their xerostomia complaints.

Conclusions: Excellent LR control was obtained with either modality: 84% (BT) vs.78% (S). BT patients fared better in understandability of speech (100 vs. 75). Late side effects were not negligible (ulcer [BT], fibrosis / trismus [S], both groups being equally affected by xerostomia). Fortunately,