Materials and Methods: All patients with oral tongue squamous cell carcinoma (SCC) treated with definitive or adjuvant radiotherapy (RT) in our department between January 1998 and December 2006 were included. They were categorized into 2 groups (Group A: ⩽40 years old and Group B: > 40 years old). Overall survival (OS), locoregional relapse-free survival (LRF) and metastasis-free survival (MFS) were calculated. Survival was estimated using Kaplan-Meier method. Qualitative variables were analyzed with Fisher exact test. $p < 0.05$ was deemed significant.
Results: Eighty-nine patients were included with 11 (12%) patients in Group A and 78 (88%) patients in Group B. There were 55% females in Group A compared to 21% in Group B ($p = 0.024$). Median age for all patients was 54 years (range 18−87), 30 years for Group A and 56 years for Group B. More patients in Group B had history of smoking and alcohol intake (41% vs. 18% and 31% vs. 18% respectively). Most patients (80%) had primary surgery. Two (2%) patients in Group B had definitive RT. Three (27%) patients in Group A and 12 (15%) patients in Group B were given definitive chemoRT. In Group A, 27% had T3/4 and 36% had N0 disease. In Group B, 49% had T3/4 and 15% had N0 disease. Group B tend to present with Stage 3/4 disease (94% vs. 73%, $p = 0.176$) but Group A had more poorly differentiated SCC (27% vs. 9%, $p = 0.484$). Margin status, lymphovascular/perineural invasion and extranodal extension were similar in both groups. Median follow-up were 13.9 months (3.4−83.9) for Group A and 13.7 months (2.3−117.0) for Group B. Four (36%) patients in Group A and 37 (47%) patients in Group B died of cancer. Two (18%) Group A and 2 (3%) Group B patients had persistent disease. Locoregional relapses were found in 18/36% and distant metastasis occurred in 9/15% in Group A and B respectively. Median OS for all patients was 96.9 months but this was not reached in Group A. The 2/5-year OS were 64/64% (Group A) and 59/52% (Group B). The 2/5-year LRF were 58/58% (Group A) and 56/53% (Group B). The 2/5-year MFS were 86/86% (Group A) and 84/81% (Group B). These survival differences were not statistically significant, even after stratifying for tumor stage (1/2 vs. 3/4).
Conclusions: Young oral tongue patients in our local population had similar pathological features and clinical outcomes compared to the older patients. However, locoregional failure was substantial in both groups and aggressive treatment is needed to improve outcome.

8543 POSTER

Hyperbaric oxygen concurrent with superselective intra-arterial carboplatin chemoradiotherapy enhances survival of patients with oral cancer

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Background: A hypoxic cell fraction within a tumor tissue decreases the effect of radiotherapy and chemotherapy and gives a poor prognosis. Because the oxygen tension of tumor tissues remains higher than that of normal tissue after hyperbaric oxygen (HBO) exposure, recent study suggests that irradiation within 15 min after HBO exposure enhances the antitumor effect of radiotherapy in malignant tumors. We retrospectively evaluated the effect of HBO given concurrently with intra-arterial carboplatin chemoradiotherapy in patients with oral cancer.
Patients and Methods: At our institution, 101 patients with oral cancer, including those with recurrent lesions or cervical lymph node metastasis, were treated with superselective intra-arterial carboplatin infusion, external beam radiotherapy, UFT (tegafur–uracil) and/or surgery between April 1995 and November 2008. Treatment was combined with HBO for 51 patients and 50 were treated without HBO exposure. HBO was administered in a multiplace hyperbaric chamber according to the following schedule: 13 min of compression with air, 60 min of oxygen inhalation using an oxygen mask with a reservoir at 2.5 atmospheres absolute, and 10 min of decompression with oxygen inhalation. Radiotherapy was performed five times weekly immediately after HBO exposure.
Results: See the table.

Table 1 Treatment result of the 101 patients/CAPTION>

Prognosis*	without HBO (50 tumors)	with HBO (51 tumors)
No evidence of disease	16	33
Alive with disease	0	3
Died of their disease	2811	
Died of another disease	6	4

*p-value = 0.001

Of the 51 patients whose tumors were treated with chemoradiotherapy without surgery, 30 also received HBO (CR-wHBO group) and 21 were treated without HBO (CR-woHBO group). Of the 50 patients whose tumors were resected after preoperative chemoradiotherapy, 20 received HBO (S-wHBO group) and 30 were treated without HBO (S-woHBO group). The disease-specific survival rate of patients treated with HBO (70%) was significantly higher than that of patients treated without HBO (40%) ($p = 0.012$). In addition, the five-year disease-specific survival rates were: S-wHBO group, 86%; S-woHBO group, 60%; CR-wHBO group, 53%; and CR-woHBO group, 27%. A logrank test showed that the differences between the survival rate of each group were significant ($p = 0.003$).
Conclusion: These results suggest that adding HBO to intra-arterial carboplatin chemoradiotherapy enhances the survival of patients with oral cancer, and that HBO is a useful adjunct to chemoradiotherapy for squamous cell cancer of the oral cavity.

8544 POSTER

A prospective, open-label, randomized phase II trial to evaluate the changes of bone resorption marker after administration of zoledronic acid (ZOL) in nasopharyngeal cancer (NPC) patients with bone metastases (BM)

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Background: ZOL is the only bisphosphonate that has demonstrated efficacy for the prevention of skeletal-related events (SREs) in patients with BM in a wide range of tumor types. Recent retrospective analyses also show that normalization of N-telopeptide of type I collagen (NTX) over 3 months by the treatment of ZOL provided a continuum of SRE risk reduction and survival benefit in patients with BM. Therefore, we conducted the prospective open-label randomized phase II trial to evaluate the changes of NTX after administration of ZOL in NPC patients with BM.
Methods: Newly diagnoses NPC patients with BM were randomized to receive chemotherapy of Cisplatin (20 mg/m^2 IV, D1−5) plus FU(500 mg/m^2 IV, D1−5) (CF regimen, q3wks) and intravenous ZOL (4 mg, q4wks, for 3months, CF+ZOL Group) or same chemotherapy alone (CF Group). Urinary NTX was measured by ELISA method at baseline and 1, 2, 3 months after administration of ZOL in all patients.
Results: Sixty patients were enrolled into the study, 30 patients in each group. The median chemotherapy numbers was same (4 and 4, respectively) in two groups. The median baseline NTX level was no difference between two groups (75.4 and 95.6 nM BCE/mM creatinine, respectively P>0.05). The NTX decreased 65.9% within 1 month in CF+ZOL group, whereas NTX increased 2.61% in CF group (P < 0.01). The median NTX decrease percentage in 2, 3 months after treatment were 70.8%, 86.5% in CF+ZOL Group and 15.9%, 34.5% in CF Group respectively (P < 0.01, P < 0.01).
Conclusion: ZOL administered with chemotherapy (CF) consistently reduced NTX levels in NPC patients with BM, indicating potential benefit of ZOL may exist in this group of patients. The value of NTX reduction in NPC patients with BM will need to further study in larger prospective randomized trials.

The median change from baseline values for NTx (%)

Time (m)	1	2	3
Group 1(CF+ ZOL)	−65.9	−70.8	−86.5
Group 2 (CF)	2.61	−15.9	−34.5
P value	P < 0.01	P < 0.01	P < 0.01

8545 POSTER

Prognostic value of ERCC1 T19007C polymorphism in head and neck squamous cell carcinoma (HNSCC) patients presenting with high- or intermediate-risk features treated with adjuvant chemoradiation (CRT)

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Backgroud: Adjuvant cisplatin (CDDP)-based CRT can increase progression-free survival (PFS) and overall survival (OS) in patients (pts) with high- or intermediate-risk HNSCC. ERCC1 is a DNA repair protein