during chemoradiation and further models to account for the effect of synchronous chemotherapy should be investigated.

**EP-1030**

**Sentinel lymph node biopsy in clinically N0 laryngeal cancer: validation and application**

**Y. Rudziankasa**, E. Korobienikova, E. Padervinskis, M. Kaseita, S. Vaitkus, N. Jurkienë

1Kaunas Medical University Hospital, Oncology and Hematology, Kaunas, Lithuania
2Kaunas Medical University Hospital, Department of Otorhinolaryngology, Kaunas, Lithuania
3Kaunas Medical University Hospital, Department of Radiology, Kaunas, Lithuania

**Purpose or Objective:** Cervical lymph node dissection for laryngeal cancer patients without clinical and radiologic evidence of regional metastasis (N0) is controversial. Aim of our study was to validate sentinel lymph node biopsy (SLNB) procedure and evaluate its applicability in early T1-2 N0 laryngeal SCC.

**Material and Methods:** A prospective study conducted at the Lithuanian University of Health Sciences Hospital, with the permission of institutional review board. Inclusion period 2010 - 2013y. Patients with histologically confirmed laryngeal SCC T1-2, N0 were involved. Two phase design: validation phase - SLNB and selective neck dissection (SND) were performed simultaneously; application phase - SND was performed according to SLNB outcome. The end points for SLNB validation phase: sensitivity, specificity, negative-predictive value (NPV). Patients from both phases were followed-up after treatment and compared for recurrence-free survival (RFS). Sentinel lymph node (SLN) lymphoscintigraphy and gamma probe. Pathological evaluation included hematoxylin and eosin staining and immunohistochemistry. Statistical analysis was performed by using SPSS® V20.0, Clinical Calculator 1, ©Richard Lowry 2001-2015. The Pearson X2 was used for categorical data. Significant p-value <0.05. RFS was investigated performing a log-rank test.

**Results:** Clinopathological features presented in table 1. In SLNB validation period we involved 16 pts. The mean number of SLNs per patient was 2.3. Four patients had positive SLN, no false positive results found. 12 pts had negative SLN, one of them had positive SND histological findings. The prevalence of positive lymph nodes was 0.31 (95% CI 0.12-0.58), overall sensitivity was 0.8 (95% CI 0.29-0.98), specificity was 1 (95% CI 0.67-1). NPV of SLNB equal to 0.91 (95% CI 0.59-0.99). During whole study period 46 pts were involved. The median of SLN removed per patient was 2.2. The total neck control rate was 87% and did not differ between validation and application groups (p=0.43). In a mean follow-up period of 24 months, mean RFS time for validation group was 42 months (95%CI 37.36-48.28) vs 40 months in application group (95%CI 32.02-48.13), with no significant difference (p=0.43).

**Conclusion:** More comprehensive study with a larger group of patients and longer follow-up is needed in order to confirm SLNB applicability, however preliminary data revealed SLNB as sensitive and specific with no negative influence on recurrence-free survival.

**EP-1031**

**Does oral mucosa OAR dose predict duration of G3 mucositis following IMRT for oropharynx cancer?**

S. Yahya, H. Benghiat, P. Nightingale, M. Tiffany, P. Sanghera, A. Hartley

1Hall-Edwards Radiotherapy Research Group, Queen Elizabeth Hospital, Birmingham, United Kingdom
2InHANSE, University of Birmingham, Birmingham, United Kingdom

**Purpose or Objective:** Various methods have been described to delineate the oral mucosa organ at risk (OAR). Due to uncertainty in the literature, the purpose of this study was to examine whether dose delivered to two versions of this OAR correlated to the duration of acute grade 3 mucositis in patients with oropharyngeal carcinoma treated with intensity modulated radiotherapy (IMRT).

**Material and Methods:** 66 patients previously treated with IMRT (55GY in 20 fractions over 25 days to the high dose volume; 46 in 20 fractions to areas at risk of harbouring microscopic disease) and synchronous carboplatin or cetuximab were included in this study. The duration of CTCAE version (v) 3 grade 3 mucositis (G3M) and the duration of strong opiate use (a surrogate for CTCAE v4 G3M) had been prospectively recorded at the time of treatment. Standard and modified oral mucosa OARs were contoured and the following dose parameters derived: mean dose, V55, V50, V45, V40 and V30. Spearman's correlation was used to investigate for a relationship between the duration of v3 G3M or strong opiate use and these dose parameters for each OAR and 6 additional patient factors: pre-radiotherapy haemoglobin, weight, age, smoking status, use of neo-adjuvant chemotherapy and synchronous chemoradiotherapy (carboplatin v. cetuximab).

**Results:** No statistically significant correlation of v3 G3M or duration of strong opiate use was noted with the tested parameters with the exception of a trend towards significance with pre-treatment weight (p=0.053). Duration of opiate use was found be to be approximately proportional to pre-treatment weight.

**Conclusion:** This study failed to show a relationship between dose to the standard or modified oral mucosa OAR and the duration of CTCAE v3 G3M or duration of opiate use in patients undergoing IMRT for oropharyngeal cancer. Further work is required to test these models with particle therapy where lower dose distributions to oral mucosa may be achievable. The utility of CTCAE v4 G3M as an endpoint if confirmed in larger studies to be related to pre-treatment weight is questioned by this study.