67.7%, respectively. Of 31 patients, contralateral lower neck was spared from the beginning of PORT in 28 (90.3%) patients. There were 3, 2, 2 patients developed local, regional, distant recurrence and additional one patient recurred at both local and regional sites. All five local-regional recurrence were located in the area irradiated to 50 Gy or more.

**Conclusions:** For N0-1 oral tongue cancer, sparing contralateral lower neck in PORT did not result in tumor recurrence in that area. It is safe to exclude contralateral lower neck from CTV in PORT for N0-1 oral tongue cancer.


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**2591**

**Supersaturated Calcium Phosphate Rinse on Oral Mucositis in Head and Neck Patients Receiving Radiation and/or Chemotherapy**

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**Purpose/Objective(s):** Oral mucositis (OM) can effect up to 100% of patients undergoing radiation and/or chemotherapy treatment for head and neck cancer. The most common oral side effects related to radiation therapy for head and neck cancer are mucositis, salivary gland dysfunction, and pain. These side effects can also lead to secondary complications such as dehydration, dysphagia and malnutrition. The aim of this investigation was to evaluate the preventative effects of supersaturated calcium phosphate rinse in the treatment of oral mucositis, when compared to historical rates of side effects for salt and soda rinses, which are the standards of care in the clinic. Head and neck radiation therapy commonly causes acute morbidity, including mucositis, thickened sticky saliva, xerostomia, loss of taste and pain. We compared patient preference for a new supersaturated calcium phosphate oral rinse, supersaturated calcium phosphate rinse to our historical rates for patients using standard salt and soda rinses.

**Materials/Methods:** Thirty-five patient were evaluated all receiving radiation therapy, 12 of them received both chemotherapy and radiation therapy concurrently, for confirmed squamous cell or adenocarcinoma. They were evaluated utilizing supersaturated calcium phosphate rinse against the standard of care salt and soda rinses. The pN+ subset (n = 208) was 69% radiographic N0 (rN0) and 31% rN positive (rN+). The pN+ subset (n = 168) was 32% rN0 and 68% rN+. Overall median follow-up time was 27 months. There was no difference in 2-year RR or DM based on rN status in the pN0 subset. Two-year RR and DM (rN0 vs rN+) was 12% and 12%, and 3% and 6%, respectively (p = NS). In the pN+ subset, 2-year RR and DM were higher for rN+ vs rN0 pts: 36% vs 20% (p = 0.01) and 38% vs 17% (p = 0.08), respectively. The association of rN status with RR in pN+ pts maintained significance after adjustment for traditional path risk factors and adjuvant therapy (table below).

**Conclusions:** Adjuvant RT recommendations are primarily based on pathologic risk stratification for pts with resected HNC. Pts with pN0 status have excellent regional and distant control regardless of preoperative rN status. Pts who are rN+/pN+ experience significantly higher RR than those who are rN0/pN+, even after adjustment for traditional path risk factors and adjuvant therapy. CT node detection is most likely a surrogate for larger tumor bulk or aggressiveness (detected as necrosis) not currently included in path staging or risk stratification. Further studies are needed to confirm this finding.

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**2592**

**Association of Preoperative Radiographic Nodal Status in Addition to Traditional Pathologic Factors With Outcomes in Patients With Laryngeal or Oral Cavity Cancer Managed With Initial Surgery**


**Purpose/Objective(s):** Recurrence risk stratification for patients (pts) with head and neck cancer (HNC) managed with upfront surgery is primarily based on pathologic (path) factors and defines the need for adjuvant therapy. The purpose of this study was to determine if preoperative CT defined neck nodal status is associated with regional and distant outcomes when added to traditional validated path risk factors in pts with resected HNC.

**Materials/Methods:** Three hundred seventy-six pts with resectable laryngeal or oral cavity cancer who underwent high-quality, preoperative CT imaging interpreted by neuroradiologists and subsequent surgical resection were reviewed. Exclusion criteria included previous neck dissection, previous radiation therapy (RT), imaging w/o contrast, and follow-up period <3 months. Time to first event (regional recurrence (RR) or distant metastases (DM)) was calculated from date of surgery with censoring at first isolated local recurrence, last follow-up, death, or second primary tumor. Actuarial rates were determined by the Kaplan Meier method. Multivariate analysis (MVA) was performed using the Cox proportional hazards method.

**Results:** The cohort was stratified by path nodal status (pN status). The pN0 subset (n = 208) was 69% radiographic N0 (rN0) and 31% rN positive (rN+). The pN+ subset (n = 168) was 32% rN0 and 68% rN+. Overall median follow-up time was 27 months. There was no difference in 2-year RR or DM based on rN status in the pN0 subset. Two-year RR and DM (rN0 vs rN+) was 12% and 12%, and 3% and 6%, respectively (p = NS). In the pN+ subset, 2-year RR and DM were higher for rN+ vs rN0 pts: 36% vs 20% (p = 0.01) and 38% vs 17% (p = 0.08), respectively. The association of rN status with RR in pN+ pts maintained significance after adjustment for traditional path risk factors and adjuvant therapy (table below).

**Conclusions:** Adjuvant RT recommendations are primarily based on pathologic risk stratification for pts with resected HNC. Pts with pN0 status have excellent regional and distant control regardless of preoperative rN status. Pts who are rN+/pN+ experience significantly higher RR than those who are rN0/pN+, even after adjustment for traditional path risk factors and adjuvant therapy. CT node detection is most likely a surrogate for larger tumor bulk or aggressiveness (detected as necrosis) not currently included in path staging or risk stratification. Further studies are needed to confirm this finding.