Oropharyngeal cancer patients report benefit in salivary function with reduction of radiation dose to bilateral IB lymph nodes

Scottsdale, Ariz., February 20, 2014—For head and neck cancer patients undergoing radiation therapy, a reduction in the amount of radiation treatment volume to the submandibular (level IB) lymph nodes resulted in better patient-reported salivary function, according to research presented today at the 2014 Multidisciplinary Head and Neck Cancer Symposium. The study results also found significant reductions in radiation dose to the salivary organs, and good local regional control.

Researchers evaluated 125 patients with node-positive oropharyngeal cancer who received chemoradiation at Memorial Sloan-Kettering Cancer Center in New York between May 2010 and December 2011. The average patient age was 57. Fifty-one percent of patients had base of tongue lesions; 41 percent had tonsil cancer; and 6 percent were classified as “other.” The breakdown of patients’ cancer stage/classification was: 74 percent T1-2 and 26 percent T3-4. All patients had cancer with lymph node involvement, including 16 percent N1; 8 percent N2A; 48 percent N2B; and 28 percent N2C.

Patients were categorized into two groups: those with sparing, or a reduction of radiation treatment volume to the region, of bilateral level IB nodes and those who underwent treatment without sparing. A prospective questionnaire regarding xerostomia (dry mouth) to assess late
xerostomia was given to patients in both groups at each patient follow-up visit; clinical assessment (observer-rated) xerostomia scores were also recorded.

The participants who received treatment involving sparing experienced significant improvement in patient-reported xerostomia summary scores (p=0.021) and observer-rated xerostomia scores (p=0.006) over the group in which there was no sparing. The two-year local regional control rate for the spared group was 97.5 percent and 93.8 percent for the group treated, indicating a low rate of cancer recurrence at the original tumor site.

Additionally, study results showed reductions in the mean radiation doses to the mouth and neck regions of patients in the spared group over the group with no sparing, including the ipsilateral submandibular gland (63.9 Gy vs. 70.5 Gy; p<.001); the contralateral submandibular gland (45.0 Gy vs 56.2 Gy, p<0.001); and the oral cavity (35.9 Gy vs 45.2 Gy; p <0.001).

“Radiation therapy plays an important role in the treatment of head and neck cancers,” said Moses Tam, BS, lead author of the study and an MD candidate in his final year at New York University School of Medicine. “Poor salivary function is the most common side effect of radiation treatment to the head and neck region. Our data shows that it is safe to spare the tumor-free level IB lymph nodes in oropharyngeal cancer from radiation treatment. Sparing this lymph node level will reduce radiation dose to several nearby salivary organs and therefore cause less damage to a patients post-treatment salivary function.”

The abstract, “A Sparing Bilateral IB in Node Positive Oropharyngeal Carcinoma Improves Xerostomia Outcomes,” will be presented in detail as a poster presentation at the 2014 Multidisciplinary Head and Neck Cancer Symposium. To speak with Mr. Tam, contact Michelle Kirkwood on February 20 – 21, 2014 in the ASTRO Press Office at the JW Marriott Camelback Inn Resort and Spa in Scottsdale, Arizona at 480-596-7085 or email michellek@astro.org.

The 2014 Multidisciplinary Head and Neck Cancer Symposium is sponsored by the American Society for Radiation Oncology (ASTRO), the American Society of Clinical Oncology (ASCO) and the American Head & Neck Society (AHNS). The two-and-a-half day meeting includes interactive educational sessions focused on topics such as supportive care, directed therapy, new surgical and
radiotherapeutic techniques, as well as 12 oral abstract presentations of the current science of relevance to the head and neck cancer community. A total of 189 abstracts will be presented including 177 posters. Keynote speakers include Jennifer Grandis, MD, of the University of Pittsburgh, to present “The Molecular Road to Defining and Targeting High-risk Head and Neck Patients;” and Julia H. Rowland, PhD, of the National Cancer Institute, to present “Cancer Survivorship: Research Opportunities on the Path to Where We Want to Be.”

# # #
2014 Multidisciplinary Head and Neck Cancer Symposium  
News Briefing, Friday, February 21, 2014, 7:00 a.m. Mountain time

Poster Presentation

139  A Sparing Bilateral IB in Node Positive Oropharyngeal Carcinoma Improves Xerostomia Outcomes

Memorial Sloan Kettering Cancer Center, New York, NY

Background: The purpose of this study is to assess whether sparing bilateral level IB in node positive (N+) oropharyngeal carcinoma (OPC) can improve xerostomia without compromising local-regional control.

Methods and Materials: 125 N+ OPC patients with median age of 57 underwent chemoradiation between 5/10 and 12/11. Patient characteristics: 74% T1-2, 26% T3-4, 16% N1, 8% N2A, 48% N2B, 28% N2C; 53% base of tongue, 41% tonsil, and 6% other. Patients were divided into those who had sparing of bilateral level IB (spared) vs. no sparing (treated). A prospective xerostomia questionnaire (patient-reported) was given at each patient follow-up visit to this cohort of patients to assess late xerostomia. Clinical assessment (observer-rated) at each patient follow-up visit was also recorded.

Results: The 2-year LRC for cohort spared and cohort treated were 97.5% and 93.8%, respectively [median follow-up 23.2 months]. No local-regional failures occurred outside of treatment fields. The cohort that had sparing of bilateral IB experienced significant improvement in patient-reported xerostomia summary scores (p = 0.021) and observer-rated xerostomia scores (p = 0.006). In addition, there were significant reductions in mean doses to the ipsilateral SMG (63.9 Gy vs 70.5 Gy; p <0.001), contralateral SMG (45.0 Gy vs 56.2 Gy, p<0.001), and oral cavity (35.9 Gy vs 45.2 Gy; p < 0.001).

Conclusions: Sparing of bilateral level IB nodes in N+ OPC improves xerostomia outcomes by reducing dose to the submandibular glands and the oral cavity resulting in improvement of both patient and observer reported xerostomia without compromising loco-regional control.