Unilateral radiation therapy for advanced stage tonsil cancer results in favorable outcomes

Scottsdale, Ariz., February 20, 2014—Limiting radiation therapy to lymph nodes on one side of the neck for advanced tonsil cancer resulted in good local regional control and no cancer recurrence on the untreated side, according to research presented today at the 2014 Multidisciplinary Head and Neck Cancer Symposium. Additionally, the study results indicate that primary tumor location, rather than the amount of lymph node involvement on the tumor side of the neck, dictates the risk for disease in the opposite side of the neck.

The study focused on 46 out of 153 total patients with squamous cell carcinoma of the tonsil who received treatment between 1997 and 2012 at Washington University in St. Louis. Tumor location was well-documented in the 46 patients who received unilateral radiation therapy (RT), with 40 patients (87 percent) having lateralized (located on one side of the throat) primary tumors; two patients (4 percent) had non-lateralized tumors, and in four patients (9 percent), lateralization could not be determined retrospectively. The patients underwent surgical resection and postoperative intensity modulated radiation therapy (IMRT), with 30 patients also receiving concurrent chemotherapy.

Of the subset of 46 patients treated unilaterally, 72 percent were men, and the average patient age was 59. Sixty-one percent of patients were current or former smokers. The cancer
stage/classification for the study group was: TX = 2 percent (1); T1 = 44 percent (20); T2 = 41 percent (19); and T3 = 13 percent (6). The patients’ stages of lymph node involvement were: N0 = 11 percent (5); N1 = 13 percent (6); and N2 = 76 percent (35). The prescribed radiation doses were 60–66 Gy to the postoperative bed and involved neck; and 52–54 Gy to the elective neck in 30–33 fractions using a simultaneous integrated boost technique.

The median follow-up period was 2.8 years (range was 0.4 to 8.7 years). There were no local or regional recurrences reported, meaning the cancer did not recur in the adjacent nodes or the original location of the cancer in any of the patients. Distant metastasis, meaning the cancer spread from the original tumor site to distant organs or lymph nodes, developed in four (9 percent) of the patients. Two patients developed second primary (new) cancers.

“All treatments for cancer—surgery, radiation therapy, chemotherapy—although effective, can cause temporary and/or permanent toxicity which can affect long-term quality of life,” said study author Wade Thorstad, MD, chief of Head and Neck Services and associate professor of Radiation Oncology at Washington University School of Medicine. “Our research indicates that for appropriately selected patients with tonsil cancer, the volume of radiation therapy necessary to control the cancer can be significantly reduced, therefore reducing the side effects and toxicity of radiation, while maintaining a high rate of tumor control.”

The abstract, “Unilateral Radiotherapy in Node Positive Patients with Lateralized Tonsillar Carcinoma,” will be presented in detail as a poster presentation at the 2014 Multidisciplinary Head and Neck Cancer Symposium. To speak with Dr. Thorstad, 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.”

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Poster Presentation

154 Unilateral Radiotherapy in Node Positive Patients with Lateralized Tonsillar Carcinoma
Definitive Management of Head and Neck Squamous Cell Carcinoma

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Background: Unilateral radiotherapy in lateralized tonsil carcinoma is considered safe for patients with low nodal stage (N0-N1) disease. There is a paucity of literature reporting unilateral radiotherapy for advanced (N2) nodal disease. Here we report the Washington University experience using unilateral radiotherapy for advanced nodal stage in lateralized tonsillar squamous cell carcinoma.

Methods and Materials: Between 1997 and 2012, 153 consecutive patients with squamous cell carcinoma of the tonsil were treated with surgical resection and postoperative IMRT. Lateralization was well documented in 129 patients (84%). 46 patients received unilateral radiotherapy. The N and T stage for this group was N0, N1, N2, or N3 disease in 5 (11%), 6 (13%), 35 (76%), and 0 (0%), respectively and the number with TX, T1, T2, T3, or T4 disease were 1 (2%), 20 (44%), 19 (41%), 6 (13%), and 0 (0%), respectively. Prescribed radiation doses were 60-66 Gy to the postoperative bed and involved neck and 52-54 Gy to the elective neck in 30-33 fractions using a simultaneous integrated boost technique. 30/46 patients received concurrent chemotherapy.

Results: Of the 46 patients treated unilaterally, 72% were men, median age was 59 years, 61% were known current or ex-smokers, and 33 patients (72%) were p16 immunohistochemistry positive. Forty patients (87%) had lateralized primary tumors, 2 patients (4%) had non-lateralized tumors, and in 4 patients (9%) lateralization could not be determined retrospectively. The median follow up period was 2.8 years (range, 0.4 - 8.7 years). There were no local or regional recurrences in this group of patients treated with unilateral radiotherapy. Distant metastasis developed in 4/46 (9%), and 2 patients developed second primaries.

Conclusions: In this cohort of patients with lateralized tonsil cancer, in whom 76% had N2 neck disease, no contralateral neck failures occurred with unilateral radiotherapy. These results support the contention that primary tumor location rather than ipsilateral neck N stage dictate the risk for disease in the contralateral neck.