



physician's bulletin

RESEARCH AND TREATMENT UPDATES FROM CITY OF HOPE

A NATIONAL CANCER INSTITUTE-DESIGNATED COMPREHENSIVE CANCER CENTER

HEAD AND NECK CANCERS: Meeting Many Challenges



Photo credit: p.cunningham

Ellie Maghami, M.D., with her 27-year-old patient, reflect on the successful surgery and recovery that was a result of the multidisciplinary head and neck oncology team.

Recently, a 27-year-old female patient presented to City of Hope's Head and Neck Oncology Service with a malignant tongue tumor. At many cancer centers, treatment would require standard transfacial surgery, requiring a lip splitting incision, mandibulotomy, tracheotomy and a feeding tube. However, the patient's favorable anatomy and the availability of more advanced technology allowed the staff to offer her transoral laser microsurgery,

a minimally invasive alternative. It spared the patient an extensive and invasive procedure, minimized pain and complications, shortened recovery and eliminated the need for a scar running across her lip and chin.

Head and neck cancers account for about 3 to 5 percent of all cancers in the United States. While relatively rare, they present challenging cases.

Besides the need for accurate diagnosis and staging, the complexity and abundance of critical structures that may be involved or impacted by treatment strongly indicate the need for an experienced multidisciplinary team for optimal patient care, preferably in an academic setting.

Surgical Advances

The head and neck surgeons at City of Hope are at the forefront with broad expertise in both classic and novel approaches to treatment.

For example, the transoral laser microsurgery mentioned previously is an alternative minimally invasive procedure to customary radical open procedures applicable in carefully selected patients. The benefit is clear: the greater the amount of functional tongue that can be retained, the better the patient's quality of life and functional outcomes.

Clearly, judicious patient selection is crucial to the success of procedures such as transoral laser microsurgery. Not all patients and not all tumors make favorable candidates. The optimal patient has good exposure, a factor that may be compromised by anatomical factors such as a short neck, large tongue, trismus (which can be a side effect of prior radiation therapy), poor dentition, large tori, a narrow mandibular arch and large areas of redundant soft tissue.

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DIRECTOR'S NOTE



Alexandra M. Levine, M.D., M.A.C.P.
Chief Medical Officer, City of Hope

Head and neck cancers can present unique challenges to a patient's well-being by virtue of their potential to affect basic functions such as chewing, swallowing and speech. In addition, depending on location and stage, the tumor may require extensive and complex surgery, which could harbor implications for the patient's appearance.

Fortunately, advances in treatment regimens are helping to reduce these factors and preserve patients' quality of life. Transoral laser microsurgery, a highly precise, minimally invasive surgical technique, helical TomoTherapy, which

precisely delivers intense radiation therapy, and targeted therapeutics all present powerful treatment options aimed at minimizing adverse effects. Coupling these modalities with a "whole-person" approach to care that addresses a patient's psychological, social and spiritual needs further advances the treatment effort.

By keeping abreast of the most current treatment technologies and never losing sight of each patient's unique needs, we constantly strive for more positive outcomes, better quality of life and, ultimately, more lives saved. ■

HEAD AND NECK CANCERS: Meeting Many Challenges *(continued from page 1)*

But for certain patients, transoral laser microsurgery offers the prospect of a successful outcome combined with far less surgical trauma. As in the case of the 27-year-old patient mentioned earlier, microsurgery allowed our surgeons to achieve clear margins without the need for extensive incisions and mandibulotomy. Additionally, transoral laser microsurgery can eliminate some of the uncertainties inherent in traditional surgery with regard to adequacy of resection margins. Cancerous tissue feels very different than normal muscle in its response to laser energy, providing real-time feedback that helps guide the resection. Furthermore, real-time intraoperative microscopy provides excellent visual confirmation of clear margins.

Radiation Therapy

The critical structures in the head and neck make effective radiation therapy particularly challenging. The doses required for optimal therapy also carry the greatest risk of damage to healthy tissues, as well as late effects. The most frequent side effects include oral mucositis, xerostomia, dysphagia and erythema.

In recent years, the emergence of helical TomoTherapy as a means of delivering intense, highly conformal doses has changed the outcome of radiation therapy. The machine optimizes patient positioning — a major concern with small structures — and can precisely target small or irregularly shaped tumors while avoiding important areas such as the parotid gland.

City of Hope's Department of Radiation Oncology was one of the first facilities in the U.S. to adopt TomoTherapy. Our physicians are highly experienced in applying this technology to head and neck cancers, as well as many others including both primary and recurrent.

Medical Oncology

As an NCI-designated Comprehensive Cancer Center, City of Hope treats all types of head and neck cancer cases, but specializes in those that are rare, unusual and difficult to treat such as anaplastic thyroid cancer (ATC), a particularly aggressive disease. ATC rapidly invades the trachea, esophagus and other adjacent structures, and metastasizes to the lung, bone and brain. Accounting for less than 2 percent of thyroid cancers, ATC accounts for some 40 percent of deaths from thyroid cancer. Patient survival is typically only a few months, making clinical studies difficult to carry out.

For these reasons, medical oncologists at City of Hope are taking an equally aggressive approach to treating ATC and other aggressive thyroid cancers. Molecular biology studies are currently investigating BRAF and other RAS mutations that activate MAP kinase pathways, triggering cell growth and malignant transformation. Targeted therapies are being explored, including clinical trials combining vascular endothelial growth factor receptor (VEGFR) inhibitors such as axitinib and sorafenib with traditional agents such as cisplatin and adriamycin. These studies are particularly relevant for patients with dedifferentiated thyroid cancers that are unresectable and unresponsive to iodine 131. Other studies are focusing on issues such as optimizing dosages of cetuximab and other agents in patients who have not responded to traditional platinum-based therapies.

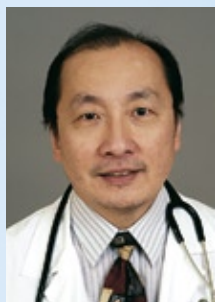
Whole-person Care

The medical complexity and personal issues in head and neck cancers require a comprehensive approach involving "whole-person" care. City of Hope has not only organized a multidisciplinary team of professionals, but draws from

a wide range of medical experts to deal with difficult cases. Recently, a sternotomy was indicated to provide safer surgical access to an ATC involving the carotid artery. A thoracic surgeon at City of Hope was immediately available to provide the needed sternal split for subsequent safe separation of the tumor from the great vessels. Frequently, other cross-discipline collaborations are required for treatment optimization, for example, microvascular reconstructive surgeons can aid in restoring form and function following large tumor resections.

Generally, head and neck cancer patients require support in functional areas such as speech and swallowing. Our specialists engage with the patient from the very beginning to assess needs as well as monitor function and quality-of-life issues throughout treatment. Clinical nutrition, physical and occupational therapy, speech and swallowing rehabilitation, and wound care are all offered as needed. Beyond these, the Sheri & Les Biller Patient and Family Resource Center provides head and neck patients — including those not treated at City of Hope — access to pain management specialists, psychiatrists, psychologists, social workers, spiritual care providers, healing arts workshops, peer support groups, health information, complementary medicine and nutrition education, all of which can play an integral part in a patient's recovery. ■

To learn more about head and neck cancer treatments available at City of Hope, please contact 800-826-HOPE, or visit online at www.cityofhope.org and search head and neck cancers.



Dean W. Lim, M.D.

An integral part of the multidisciplinary team of experts on the Head and Neck Oncology Service at City of Hope, Dr. Lim is assistant clinical professor of medical oncology and therapeutics research. Dr. Lim is dedicated to preserving quality of life for patients with head and neck

cancers by pursuing research that explores innovative therapeutic remedies for recurring head and neck cancers that may no longer be amenable to surgery.

Dr. Lim has practiced at City of Hope since 1999 and he is board certified in medical oncology as well as internal medicine. He belongs to many professional organizations including the American Society of Clinical Oncology, California Cancer Consortium and the Southwest Oncology Group. Dr. Lim is also part of a small group of physician experts from across the country that develops the National Comprehensive Cancer Network treatment guidelines for cancer.



Renee Penn, M.D.

Dr. Penn is the newest member of the Head and Neck Oncology Service, recently joining City of Hope in September 2009. She was recruited to City of Hope after completing a head and neck oncologic surgery fellowship at the University of California, Los Angeles.

She completed her internship and residency at Georgetown University Hospital and received her medical degree from Drexel University College of Medicine.

Evaluating quality-of-life issues in head and neck cancer patients holds a special interest for Dr. Penn. She also specializes in the diagnosis and treatment of head and neck squamous cell cancers, aggressive skin cancers including melanoma, thyroid and parathyroid disease, salivary gland neoplasms and skull base tumors. Her research interests include the development and validation of improved prognostic tools for head and neck cancer patients, tumor profiling, molecular epidemiology and the application of novel molecular therapeutics.



Nayana L. Vora, M.D.

Nationally recognized for her expertise in radiation oncology, Dr. Vora is a professor of radiation oncology at City of Hope and associate member of the Developmental Cancer Therapeutics Program for City of Hope. She joined City of Hope in 1979.

Dr. Vora directs the interstitial brachytherapy program for head and neck and gynecologic cancers. Her clinical interests include the treatment of head and neck cancer, breast cancer and gynecologic cancers, utilizing brachytherapy, 3-D conformal radiotherapy, intensity-modulated radiation therapy, image-guided radiation therapy and TomoTherapy. Her other interests include total body radiation treatment for hematologic malignancies, and stereotactic radiosurgery for brain and spinal tumors.

CLINICAL TRIALS

IRB Title

- 07099 Evaluation of BCL-XL Specific Immunity
Principal Investigator: Joshua Ellenhorn, M.D., jellenhorn@coh.org
- 07121 Cetuximab at either 500 or 750mg/m² Every Other Week for Platinum Refractory Cancer of the Head and Neck
Principal Investigator: Dean Lim, M.D., dlim@coh.org
- 08138 City of Hope Head and Neck Database Using the American Head and Neck Society Otobase
Principal Investigator: Ellie Maghami, M.D., emaghami@coh.org

- RTOG 0619: A Randomized Phase II Trial of Chemoradiotherapy versus Chemoradiotherapy and Vandetanib for High-risk Postoperative Advanced Squamous Cell Carcinoma of the Head and Neck
Principal Investigator: Nayana Vora, M.D., nvora@coh.org

For more information regarding the above listed clinical trials, please e-mail the individual investigator or go to <http://clinicaltrials.coh.org> and enter the IRB number.



YES, please sign me up to receive updates and information by e-mail.



Ellie Maghami, M.D.

*Chief, Division of Head and Neck Surgery
Director, Head and Neck Oncology Service
Assistant Professor of Otolaryngology*

A leading expert in all areas of head and neck surgical oncology, Dr. Maghami leads the multidisciplinary Head and Neck Oncology Service at City of Hope. She received her medical degree and Alpha Omega Alpha honorary distinction at Washington University, St. Louis. Following completion of a highly competitive otolaryngology training program at University of California, Los Angeles, she became the top ranked recruit to Memorial Sloan-Kettering Cancer Center where she spent nearly three years in advanced research and surgery fellowship training.

Dr. Maghami is actively involved in cancer research. Her laboratory work has focused on RNAi based gene therapy applications in head and neck cancers. Additionally, she is a co-investigator in several institutional clinical trials testing novel multimodality treatment regimens aimed at improving overall survival while preserving quality-of-life parameters.

Dr. Maghami is a member of the American Board of Otolaryngology and specialty related societies including the American Academy of Otolaryngology and Head and Neck Surgery, American Head and Neck Society, American Society of Clinical Oncology and American Association for Cancer Research. She is an editorial review panelist for the medical journals *Head and Neck*, *Laryngoscope* and *Otolaryngology-Head and Neck Surgery*. Dr. Maghami is one of a small group of leading physicians from across the United States who develops the National Comprehensive Cancer Network treatment guidelines for patients with head and neck cancers. ■

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CITY OF HOPE
Head and Neck Oncology Service

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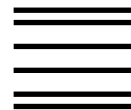
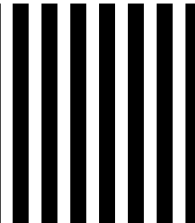


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C M E C O R N E R

■ **Ninth Annual Women's Cancer Conference**

Date: October 30 to November 1, 2009
Location: Wynn Hotel & Casino, Las Vegas
Course Directors: Robert J. Morgan Jr., M.D. and Lucille Leong, M.D.
16.25 hours AMA/PRA Category 1 credits will be offered.
For more information, contact the CME Department at 626-256-HOPE (4673), ext. 65626.

■ **CME Dinner Meeting Series — "NSCLC 2009: New Strategies in Screening, Staging and Adjuvant Therapy"**

Date: Thursday, November 5, 2009
Location: Visitor Center at City of Hope, Duarte, Calif.
Speakers: Frederic Grannis, M.D. and Marianna Koczywas, M.D.
1.5 hours AMA/PRA Category 1 credits will be offered.
For more information, contact the CME Department at 626-256-HOPE (4673), ext. 65622.

■ **CME Dinner Meeting Series — "Cancers Affecting the Spine: Multidisciplinary Team Approach and Individualized Care"**

Date: Thursday, December 3, 2009
Location: Visitor Center at City of Hope, Duarte, Calif.
Speakers: Rahul Jandial, M.D., Ph.D., Julie Ressler, M.D. and Khan Nguyen, M.D.
1.5 hours AMA/PRA Category 1 credits will be offered.
For more information, contact the CME Department at 626-256-HOPE (4673), ext. 65622.

■ **Seventh Annual Conference on Advances in the Multidisciplinary Treatment of Gastrointestinal Neoplasms**

Date: February 25 to 27, 2010
Location: City of Hope, Duarte, Calif.
17.75 hours AMA/PRA Category 1 credits will be offered.
For more information, contact the CME Department at 626-256-HOPE (4673), ext. 65626.