

# As head and neck cancer risks evolve, more treatment options emerge

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Advances in understanding head and neck cancer over the last decade have led to more treatment options and improved quality of life for patients, according to a review published this week in the *New England Journal of Medicine*.

The authors are Dong M. Shin, MD, Frances Kelly Blomeyer Distinguished Professor and associate director of Emory University School of Medicine's Winship Cancer Institute, and Robert Haddad, MD, assistant professor of medicine at Harvard Medical School and clinical director of its Head and Neck Oncology Program.

At Winship, Shin is leading a head and neck cancer drug discovery program and conducting clinical trials aimed at preventing head and neck cancers from progressing or recurring. He and his co-workers recently showed that a compound from green tea enhances the effects of a FDA-approved drug (erlotinib) against head and neck cancer cells in animals, suggesting that it could work similarly in humans. The results are published in the September issue of *International Journal of Cancer*.

The majority of head and neck cancers arise from the soft tissues of the mouth, throat, and voice box. Symptoms can include a sore throat, difficulty swallowing, and a changing voice.

Even successful treatment can result in changes in the appearance of the patient's face. However, over the last decade, techniques have been developed that allow doctors to better preserve organ function in cases of

larynx or tongue cancers, Shin says.

Because smoking and alcohol consumption are risk factors, most patients are middle-aged males with a history of smoking and drinking. However, a recent increase in head and neck cancer cases among patients under 40 who do not share those risk factors has alarmed doctors, Shin says.

The increase appears to come from human papillomavirus, the same virus that causes cervical cancer in women, and may be linked with oral sex, he says.

Around 47,000 new cases and 12,000 resulting deaths in the United States are expected this year, making head and neck cancer the fifth deadliest type of cancer, according to the American Cancer Society.

In their review, Shin and Haddad describe:

- molecular pathways that lead to the development of head and neck cancer
- refinements in radiation, chemotherapy and surgery allowing doctors to preserve affected tissues and body parts
- evidence for the link between human papillomavirus and some types of head and neck cancer
- new therapies designed to target the out-of-control growth circuits in cancer cells

Some of the new therapies, such as erlotinib and cetuximab, work against the signals that come from epidermal growth factor receptor (EGFR), which drives out-of-control growth in head and neck cancer cells. Erlotinib inhibits EGFR's signals inside the cell, while cetuximab consists of antibodies that block the signals from outside the cell.

As an illustration of progress, five-year survival rates for oropharynx and

tonsil cancer have increased from 36 percent in the early 1980s to around 54 percent for patients diagnosed in 2000, according to the National Cancer Institute.

Still, Shin says early detection is an important strategy to increase survival.

"More than two-thirds of patients come to doctors with locally and regionally advanced disease, and their prognoses are dismal", he says. "But head and neck cancers are potentially curable when diagnosed at an early stage."

In clinical trials at Winship, Shin is testing drug regimens in an effort to prevent head and neck cancer in patients who have pre-cancerous growths. A separate trial seeks to prevent a second primary tumor in patients who have already had a first.

Source: Emory University

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