Medical Xpress

Study: Speaking, eating possible after tonsil cancer surgery with reconstruction

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A new technique for reconstructing the palate after surgery for tonsil cancer maintained patients' ability to speak clearly and eat most foods, a new study shows.

The technique, developed at the University of Michigan Comprehensive Cancer Center, is described in the September *Archives of Otolaryngology - Head & Neck Surgery*.

"This is the area that triggers swallowing, that separates the mouth from the nasal cavity. It affects speech and eating - typically, patients have difficulty eating when they have this kind of tumor and undergo surgery. We can remove the cancer, but there are major quality of life issues," says study author Douglas Chepeha, M.D., M.S.P.H., associate professor of otolaryngology head and neck surgery and director of the microvascular program at the University of Michigan Health System.

Tonsil cancer develops in the back of the throat, which means surgery could include parts of the palate, the tongue and the jaw. Traditional reconstruction efforts have meant taking a large, round piece of tissue to plug the hole left when the tumor is removed. But this impairs the way the palate and tongue function, and does not restore the complex components of the throat that allow a person to speak and swallow.

With the new technique, surgeons first create a tube from the remaining palate by attaching the palate to the back part of the throat, next to where the tumor was removed. This tube separates the mouth from the nasal

cavity and closes during swallowing, allowing patients to eat and speak.

Then the surgeons sew up the defect in the base of the tongue to separate the tongue from the rest of the reconstruction. This ensures that the tongue can move, which improves swallowing and speech. The shape of the remaining defect is irregular, so a template is designed for using transplanted tissue to fill in any other holes left by the surgery.

The tissue used in the reconstruction is a transplant from the arm or another part of the patient's own body. L-shaped patterns, similar to dress patterns, help the surgeon determine the size and shape of the skin tissue they'll remove for transplant.

The study followed 25 patients with tonsil cancer. Patients were grouped based on how much of their palate was removed during surgery: less than half or more than half. The patients were followed for an average of five years after the surgery.

Both groups reported few problems with speech. Patients who had more than half their palate removed were more limited in what they could eat and reported some restrictions to eating out in public. Emotional scores were high for both groups, suggesting overall satisfaction with their lives.

"In particular, patients who have less than half their palate removed do very well with this reconstruction. We're trying to make sure the remaining tongue and palate they have really work. Our goal is to get patients eating in public and back to work," Chepeha says.

The number of tonsil cancers diagnosed has increased in recent years due to HPV, or human papillomavirus, the virus that is also linked to cervical cancer.

Cancer statistics: 12,610 Americans will be diagnosed with throat cancer this year and 2,230 will die from the disease, according to the National Cancer Institute. The tonsils are one of three locations in which throat cancer occurs.

More information: *Archives of Otolaryngology - Head & Neck Surgery*, Vol. 135, No. 9, Sept. 2009

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