

PMH finding may help some tonsil cancer patients avoid chemotherapy

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Clinical researchers at Princess Margaret Hospital (PMH) have confirmed that patients with oropharyngeal squamous cell cancer ("tonsil cancer") harbour a common type of human papilloma virus (HPV16), but also that such cancers are very sensitive to radiation. For some patients, this may mean successful treatment with radiation alone and avoiding the side effects of chemotherapy.

"This represents the power of personalized medicine. By using a relatively simple molecular test to evaluate the tumour, we can customize the treatment plan, produce an excellent outcome, and maintain the patient's quality of life," says principal investigator Dr. Fei-Fei Liu, PMH radiation oncologist, Head of the Division of Applied Molecular Oncology, Ontario Cancer Institute, and Dr. Mariano Elia Chair in Head & Neck Cancer Research, University Health Network.

The findings were published on November 2 in the *Journal of Clinical Oncology* (JCO 231670).

Dr. Liu's team discovered that patients whose tumours tested positive for HPV16 had a much better survival, compared to patients whose tumours did not harbour HPV16. This HPV effect was independent of treatment (radiation alone, or radiation plus chemotherapy), suggesting that some HPV16 patients could be treated with radiation only. As a result, PMH now routinely tests tonsil-area tumours for HPV16 -- one of the first cancer programs to do so.

The study's finding is important because this particular type of cancer is increasing - up more than 10% in the past 20 years. The jump is likely attributed to the spread of HPV16 through sexual activity, compared with a 20% decline in other similar head-and-neck cancers over the same period because fewer people are now smoking.

Dr. Liu says the HPV vaccine currently available for teenagers targets the HPV16 strain. "Of course the goal is to prevent HPV infection in the first place, but for individuals who need treatment now, it's a major step to know that we could provide options so that some of our patients could be spared the often-difficult side effects of [chemotherapy](#)."

The research team analyzed tumour biopsies of 111 patients treated at PMH from 2003-2006, comparing clinical diagnosis, treatment plans, and outcomes. They found HPV16 in 60% of the samples, and determined that these patients experienced a much better survival, compared to the HPV-negative patients.

"We hope these findings will help other [cancer](#) programs manage their patients," says Dr. Brian O'Sullivan, Leader of the Head and Neck Program at Princess Margaret Hospital, Associate Director of the Radiation Medicine Program at PMH, and Bartley-Smith/Wharton Chair in Radiation Oncology.

Source: University Health Network

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