

New research shows possibility of cure for HPV positive throat cancer patients

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Patients with cancer of the throat caused by the Human Papilloma virus (HPV+) have a better prognosis than those who are negative for the virus (HPV-). Now, for the first time, researchers have shown with convincing evidence that a group of patients with HPV+ cancer of the oropharynx (the part of the throat located behind the mouth, that makes up the region of the tonsils and the back part of the tongue where it connects to the swallowing part of the throat), can be cured in some cases even after disease has spread to distant organs in the body, like the lungs.

Dr Sophie Huang, Assistant Professor in the Department of Radiation Oncology, Princess Margaret Cancer Centre, University of Toronto, Canada, will tell the 5th International Conference on Innovative Approaches in Head and Neck Oncology (ICHNO) today (Friday) that her research has shown that, following intensive treatment, certain [patients](#) with HPV+ oropharyngeal cancer (OPC) and distant metastases (tumours appearing in an organ not directly related to the primary cancer site) can survive for more than two years without further evidence of disease. Such cancers are usually considered to be incurable, and the goal of treatment is usually limited to symptom control. "Our research, the largest study to date to explore survival predictors for metastatic HPV+ and HPV- oropharyngeal cancer patients, has shown that cure is a realistic goal in those patients with oligometastasis - metastases involving five or fewer lesions in one distant organ", she will say.

Dr Huang and colleagues identified 934 patients with HPV+ OPC out of the 1238 OPC patients who had been treated at the Princess Margaret

Cancer Centre between 2000 and 2011. Distant metastases were detected in 15% of these patients; 88 in the HPV+ group and 54 in those with HPV- disease. Oligometastasis was present in 24 HPV+ patients with distant metastases in a single organ.

The researchers found two types of distinct distant metastases in HPV(+) patients: "explosive" and "indolent" metastases. The explosive type metastasis, where more than ten lesions in one organ appear quickly in a short period (within three months of appearance of the first lesion), was present in 55% of the HPV+ group, as opposed to none in those who were HPV-. In both HPV+ and HPV- groups, lung was the most common metastatic site. The indolent type of metastases grow and spread at a much slower pace, most often manifesting as oligometastasis. This occurred in 24% of the HPV+ cases with metastases in a single organ as opposed to 26% of those who had HPV- cancer.

"In the HPV+ group of patients with oligometastases, when they were given definitive local treatment aimed at disease control - for example, a high radiation dose or surgical removal of the metastatic lesion, as opposed to a less [aggressive treatment](#) used to control symptoms -there was a long term disease-free period, suggesting that some may be cured," Dr Huang will say. "In the HPV+ group with oligometases 25% were still alive after three years, whereas the percentage in the HPV- group was 15%."

The survival advantage in HPV+ OPC patients is due to a number of factors, the researchers say. The cancer is more sensitive to radiotherapy and chemotherapy; the patients tend to be younger (an average age of 55 at diagnosis as opposed to 65) with fewer other health problems, including those caused by smoking-related illness, and this enables them to receive the more aggressive treatment necessary to eradicate metastatic disease.

The percentage of HPV positive to negative OPC cancers varies globally, depending on a number of factors, including the prevalence of smoking and the practice of oral sex. Overall the incidence of HPV+ throat cancers has increased over the past 20 years in developed countries, such as US, Canada, Japan, Australia, and some European countries.

"This research has shown that metastatic HPV+ OPC patients who receive active treatment can survive considerably longer than those who did not receive treatment. One of the reasons patients with metastatic disease do not receive aggressive treatment is due to the physician and patient's perception that this is an incurable state. We hope that these results will motivate researchers to optimise management strategies for these patients. This will not only help to produce a better quality of life and a return to work for them, but also reduce the cost to healthcare systems," Dr Huang will say.

"We also hope that our study may trigger research to explore cost-effective methods for the early detection of metastases. Optimising and tailoring surveillance strategies for HPV+ patients are also important. For example, our research has shown that the surveillance period should be longer than the traditional two-year window, due to the possibility of later onset of metastases. Selecting the appropriate imaging method in order to detect asymptomatic oligometastasis (e.g. ultrasound for the early detection of liver metastasis) may allow salvage treatment of some patients before the cancer progresses. Finally, we hope that it will help clinicians identify patients who are best able to benefit from aggressive treatment, such as metastasectomy (surgical removal of the metastases) or stereotactic radiotherapy (highly focused high dose radiotherapy to small regions)," Dr Huang will say.

Whether it is possible to identify which patients at initial presentation are at high risk of developing distant metastasis, and which type of

distant metastasis will subsequently develop are other important questions for future studies, say the researchers. "We know there is a degree of correlation between the initial stage and the risk of distant metastasis, but we did not find a strong relationship between this stage and the type of metastasis. The intensity of cigarette smoking in the years prior to the time of diagnosis is a possible factor. Being able to identify such relationships could be a huge help in deciding appropriate treatment at an early stage," Dr Huang will say.

Although head and neck cancer is the sixth most common type of cancer worldwide, awareness of it is low, and hence the majority of diagnoses are not made until the disease is in an advanced stage, resulting in limited treatment choices and hence a reduction in the chance of survival.

Professor Jean Bourhis, co-chair of the conference scientific committee, said: This important piece of research adds substantially to what we know about the role and the importance of the Human Papilloma Virus (HPV) in oropharyngeal cancers and gives real hope of improvement in both diagnosis and treatment to those who are affected by the condition."

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