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Early HPV testing could detect sexually transmitted oral cancer

Lyon, France, 17 June 2013 - Antibodies to a high-risk type of human papillomavirus (HPV16) could help detect oropharyngeal¹ cancer several years before the clinical onset of the disease, reveals a new study from the International Agency for Research on Cancer (IARC) in cooperation with the German Cancer Research Center (DKFZ) and the United States National Cancer Institute (NCI) in an article published online today by the *Journal of Clinical Oncology*.

According to the results of the study, HPV16 E6 antibodies in the blood indicate a very high risk of developing an HPV-associated cancer of the oropharynx.

“These results are very encouraging. Up to now, it was not known whether these antibodies were present in blood before the cancer became clinically detectable. If these results are confirmed, future screening tools could be developed for early detection of the disease,” explained Dr Paul Brennan, Head of the Genetics Section at IARC and the senior author of the study. “To date there are no available markers for early detection of this cancer,” he said.

In the new study, of the 135 individuals who developed oropharyngeal cancer, 47 (about one third) had HPV16 E6 antibodies in their blood up to 12 years before the onset of disease, compared with only 9 of 1599 individuals who did not develop the cancer (less than 1%). All participants were part of the European Prospective Investigation into Cancer and Nutrition (EPIC) study, which comprises more than 500 000 individuals from 10 European countries who were recruited in the 1990s and have been followed up since then.

Another significant finding of this landmark study was that patients with oropharyngeal cancer who had tested positive for antibodies against HPV16 E6 before cancer diagnosis were 3 times as likely to be alive 5 years after their diagnosis as those oropharyngeal cancer patients who had tested negative for these antibodies.

Although HPV is better known for causing cervical cancer and other genital cancers, it is also responsible for an increasing number of cancers of the oropharynx, particularly among men, and about [30% of oropharyngeal cancers worldwide are estimated to be HPV-related](#). The main type of HPV associated with these cancers is HPV16.

Oropharyngeal cancer has been a relatively uncommon cancer, traditionally associated with heavy tobacco smoking and heavy alcohol consumption. But over the past few decades its occurrence has increased dramatically in many parts of the world, especially in Europe and North America. This increase is thought to be due to the growing number of infections with HPV and to changing sexual practices, such as an increase in oral sex.

“These exciting findings are particularly important because of the worrying increase in the numbers of this type of cancer,” said Dr Christopher Wild, Director of IARC. “The work shows how innovative laboratory tests may help us develop tools to prevent or detect cancer early as well as improve treatment of the disease.”

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¹ Oropharyngeal cancer includes cancers of the tonsils, the oropharynx (the oral part of the pharynx), the soft palate, and the base of the tongue.

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Reference: Evaluation of Human Papillomavirus Antibodies and Risk of Subsequent Head and Neck Cancer, *Journal of Clinical Oncology* published online on June 17, 2013; DOI: 10.1200/JCO.2012.47.2738 Aimee R. Kreimer, Mattias Johansson, Tim Waterboer, et al.

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The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release e-mailing list, please write to com@iarc.fr.