

Simple protein test could improve prediction of survival rates for patients with head and neck cancer

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(Medical Xpress)—Scientists from The University of Manchester – part of the Manchester Cancer Research Centre - used a simple protein test that could prove more useful in predicting survival chances for patients with head-and-neck cancer compared to existing methods.

The team, funded by Cancer Research UK, believe the test could allow doctors to choose more appropriate and tailored treatments.

Oral cancers, including the tongue and tonsils, are usually associated with tobacco and alcohol intake. However, increasing numbers of cases are instead linked to human papillomaviruses (HPV) - which occur in younger people and have a different biology and a better prognosis.

One approach for detecting HPV-associated oral cancer relies on finding HPV DNA in the tumour sample but these DNA-based tests may not accurately classify the tumour. Another approach is to use a marker of HPV rather than testing for HPV DNA directly. The [p16](#) protein usually disappears in tumours that are not caused by HPV infection and has been proposed as a surrogate marker of HPV.

The researchers looked at differences in clinical characteristics, treatment and survival between p16-positive and p16-negative oral cancers in a large group of 217 patients.

Professor Catharine West, from The University of Manchester and Manchester Cancer Research Centre who led the research, said: "We know that in most cases, p16 is linked to differences in survival. We wanted to see how it compared to other measures such as the stage of disease – which tells us the size and spread of the cancer. Anything that allows us to predict outcome could help doctors plan more personalised treatments for individual patients."

The study, published in the journal *Clinical Oncology*, shows that the presence of p16 in a tumour was strongly linked to increased survival. They found that tumour stage was linked to survival in p16-negative tumours, but not in p16-positive tumours.

Professor West said: "Despite presenting with a more advanced stage of [cancer](#), patients whose tumours tested positive for p16 had greater survival when compared with p16-negative patients.

"Applying this test in the clinic could help guide treatment decisions and potentially allow doctors to choose more appropriate and tailored treatments."

"Many studies have now shown p16 status is strongly linked to [survival](#). Now we have shown the test works better than routine staging for some cancers, we would recommend this test be offered as standard," added Professor West.

Jessica Kirby, Cancer Research UK's senior health information manager, said: "This study clearly shows that testing for HPV status using p16 levels can be valuable as one of a number of ways doctors determine their patients' prognosis. HPV-associated head and neck cancers are becoming much more common over time, and there's a wealth of evidence that patients with HPV-positive tumours tend to have better outcomes than HPV-negative [patients](#)."

More information: "The prognostic significance of the biomarker p16 in oropharyngeal squamous cell carcinoma.", Oguejiofor KK, Hall JS, Mani N, Douglas C, Slevin NJ, Homer J, Hall G, West CM. *Clin Oncol (R Coll Radiol)*. 2013 Nov;25(11):630-8. [DOI: 10.1016/j.clon.2013.07.003](https://doi.org/10.1016/j.clon.2013.07.003). Epub 2013 Jul 31.

Provided by University of Manchester

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