

# Oral cancers linked to genes as well as lifestyle

May 26 2008

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A major international study published today in Nature Genetics provides the strongest evidence to date that genetics play a role in oral cancers – and further emphasises the part alcohol plays in developing the disease.

Researchers have discovered that people's risk of developing cancers of the mouth, larynx, pharynx and oesophagus is related to genes which regulate how fast or slow your body breaks down alcohol.

It is already known that alcohol consumption, tobacco smoking and a diet lacking fruit and vegetables are risk factors for oral cancer.

The incidence of these cancers is increasing dramatically in Scotland, and elsewhere in the UK and Europe, particularly among young men.

However some people diagnosed with oral cancer have relatively modest levels of alcohol consumption, while others who have higher levels of intake do not develop the disease.

This new study reveals that two gene variants hold the key as to why this is the case.

Researchers spent five years studying 3,800 patients with oral cancers and cancers of the larynx and oesophagus, and 5,200 who were free of the disease at 23 centres throughout Europe and Central and South America.

The study focused on genes which are involved in metabolising alcohol.

It found that people with a variant in the genes ADH1B and ADH7 appeared to be less susceptible to the cancers because this led to alcohol being broken down quicker. It is already known that those with the variant in ADH1B metabolise alcohol up to 100 times faster than those without it.

The effect was seen in populations in Western Europe, Eastern Europe and Central and South America.

Dr Tatiana Macfarlane, Senior Lecturer in Medical Statistics at the University of Aberdeen's Department of General Practice and Primary Care, was involved in the study which took place while she was at the University of Manchester.

She said: "The study showed that your risk of getting oral cancers is linked to genetics as well as lifestyle. We found that, in particular, the risk depends on how fast your body metabolises alcohol. The results suggest that the faster you metabolise it, the lower your risk.

"These results provided the strongest evidence yet that alcohol consumption is strongly linked to oral cancers. The risk is particularly high if you also smoke or rarely eat fruit and vegetables."

Professor Gary Macfarlane, Chair in Epidemiology at the University of Aberdeen's Department of Public Health, added: "At a time when we are concerned about the levels of alcohol consumption in the United Kingdom these results demonstrate the public health importance of measures to reduce consumption and prevent deaths at young ages from diseases, including oral cancers."

Source: University of Aberdeen

Citation: Oral cancers linked to genes as well as lifestyle (2008, May 26) retrieved 10 April 2024 from <https://medicalxpress.com/news/2008-05-oral-cancers-linked-genes-lifestyle.html>

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