

Thursday, 27 October 2005, 23:07 GMT 00:07 UK

Cabbages 'cut lung cancer risks'



Eating vegetables from the cabbage family can reduce the risk of lung cancer for people with a certain genetic make-up, scientists say.

Such cruciferous vegetables had already been linked to reduced rates of lung cancer, but it had not been clear why.

The study found eating the vegetables at least once a week cut cancer risk for people with inactive versions of two genes, carried by 70% of people.

The Lancet study was by International Agency for Cancer Research scientists.

"Further research and testing would need to be done to ascertain the reliability of research on these vegetables before it could be used in the UK"

Professor Stephen Spiro, British Lung Foundation

The two genes which were studied are the GSTM1 and GSTT1, which normally protect the body against certain toxins.

Vegetables such as cabbage, broccoli and sprouts are rich in chemicals called isothiocyanates, which strongly protect against lung cancer.

Normally, isothiocyanates are eliminated from the body by "clean-up" enzymes produced by the genes GSTM1 and GSTT1.

'Substantial effect'

The researchers from the IACR in Lyon, France, looked at 2,141 patients with lung cancer and 2,168 healthy individuals from Poland, Slovakia, Czech Republic, Romania, Russia and Hungary, where cruciferous vegetables are a normal part of the diet.

DNA samples were taken, and their diets monitored.

No protective effect was seen in people who carried active versions of both genes.

But eating the vegetables at least once a week was found to have a 33% protective effect against lung cancer in people who just had an inactive form of the GSTM1 gene.

Around 50% of people have this form of this gene.

In those with an inactive form of the GSTT1 gene, there was a 37% protective effect.

Around 20% have this form.

But individuals who had inactive versions of both genes - which applies to 10% of the population - were 72% protected.

'Environment plus genes'

Dr Paul Brennan, one of the scientists who carried out the study, said: "These data provide strong evidence for a substantial protective effect of cruciferous vegetables on lung cancer."

Professor Paulo Boffetta, who also worked on the study, added: "This is a population who all ate some of these vegetables, so we don't know if the same pattern would be seen when comparing people who ate a moderate amount to none, as opposed to a high amount to a medium amount."

"The message here is that environmental effect depends on the genetic background and vice versa."

But Professor Boffetta said the protective effect of the vegetables would not rule out the harmful effect of smoking, linked to the majority of cases of lung cancer.

"The risk a regular smoker will getting lung cancer is 20 times that of a non-smoker. So even if eating these vegetables cut that risk by half, smokers would still be at a much higher risk."

Professor Stephen Spiro, of the British Lung Foundation, said: "This research is very interesting and we will be following further developments closely."

"Lung cancer causes more than 33,000 deaths in the UK each year and finding a simple way to help protect some of the population against

this condition would be a huge benefit.

"However, it is important to reiterate the importance of stopping smoking, and protection from second-hand smoke.

"Further research and testing would need to be done to ascertain the reliability of research on these vegetables before it could be used in the UK."