Drinking very hot tea can increase the risk of throat cancer

March 26 2009

People are advised to wait a few minutes before drinking a cup of freshly-boiled tea today as a new study, published on bmj.com, finds that drinking very hot tea (70°C or more) can increase the risk of cancer of the oesophagus, the muscular tube that carries food from the throat to the stomach.

The study was carried out in northern Iran, where large amounts of hot tea are drunk every day.

But an accompanying editorial says these findings are not cause for alarm and the general advice is to allow foods and beverages to cool a little before swallowing.

Cancers of the oesophagus kill more than 500,000 people worldwide each year and oesophageal squamous cell carcinoma (OSCC) is the commonest type. In Europe and America, it is mainly caused by tobacco and alcohol use and is more common in men than in women, but drinking hot beverages is also thought to be a risk factor.

Golestan Province in northern Iran has one of the highest rates of OSCC in the world, but rates of smoking and alcohol consumption are low and women are as likely to have a diagnosis as men. Tea drinking, however, is widespread, so researchers set out to investigate a possible link between tea drinking habits and risk of OSCC.

They studied tea drinking habits among 300 people diagnosed with

OSCC and a matched group of 571 healthy controls from the same area. Nearly all participants drank black tea regularly, with an average volume consumed of over one litre a day.

Compared with drinking warm or lukewarm tea (65°C or less), drinking hot tea (65-69°C) was associated with twice the risk of oesophageal cancer, and drinking very hot tea (70°C or more) was associated with eight-fold increased risk.

Likewise, compared with drinking tea four or more minutes after being poured, drinking tea less than two minutes after pouring was associated with a five-fold higher risk.

There was no association between the amount of tea consumed and risk of cancer.

To minimise errors between reported and actual tea temperatures, the researchers then measured the actual temperature that tea was consumed by nearly 50,000 residents of the same area. This ranged from less than 60°C to more than 70°C and there was a moderate agreement between reported tea drinking temperature and actual temperature measurements.

Our results show a strong increase in the risk of oesophageal squamous cell carcinoma associated with drinking hot or very hot tea, say the authors.

Previous studies from the United Kingdom have reported an average temperature preference of 56-60°C among healthy populations.

They suggest that informing the population about the hazards of drinking hot tea may be helpful in reducing the incidence of oesophageal cancer in Golestan and in other high risk populations where similar habits are prevalent.

These results provide persuasive evidence that drinking tea at temperatures greater than 70°C markedly increases the risk of oesophageal squamous cell carcinoma, says David Whiteman from the Queensland Institute of Medical Research in Australia in an accompanying editorial.

This report also lends support to the notion that thermal injury may be a cause of epithelial cancers, though he points out that the way in which heat promotes tumour development is not clear and warrants further investigation.

However, he stresses that these findings are not cause for alarm, and they should not reduce public enthusiasm for the time honoured ritual of drinking tea. Instead he suggests waiting at least four minutes before drinking a cup of freshly boiled tea, or more generally allowing foods and beverages to cool from "scalding" to "tolerable" before swallowing.

Source: British Medical Journal (news : web)