High alcohol intake linked to heightened HPV infection risk in men

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A high alcohol intake is linked to a heightened risk of human papillomavirus infection among men, suggests research in the journal *Sexually Transmitted Infections*. The findings seem to be independent of other risk factors for the infection, such as number of sexual partners and smoking.

There is some evidence to suggest that alcohol impairs the workings of the immune system, both in terms of the initial protective inflammatory response to infection and the development of subsequent immunity.

And habitual drinking is known to increase susceptibility to bacterial pneumonia, septicaemia, tuberculosis and viral hepatitis. The researchers therefore wanted to find out if there was any association between drinking patterns and susceptibility to HPV infection.

They included 1313 men who were already taking part in the US arm of the HPV in Men (HIM) study, an international study that is tracking the natural history of HPV infection in men.

Participants filled in extensive and validated questionnaires on their long term sexual history and diet in the preceding 12 months. The food frequency questionnaire also asked about alcohol, including serving size, frequency, and type.

The men underwent a medical examination two weeks before the start of the study, and then every six months afterwards. Samples were taken from three genital areas to test for the presence of HPV.

Alcohol intake was grouped according to daily consumption of less than 0.10 g/day in the bottom 25% (quartile) of consumption up to 9.91 g* or more a day for those in the top 25%.

Men who habitually drank more tended to be younger, smokers, of white ethnicity, to have had more sexual partners, and they were more likely to be circumcised—which may protect against infection—than those who drank less.

Average daily alcohol intake among those who tested positive for HPV was significantly higher than among the 514 men who tested negative. It was 4.52 g for those testing positive, compared with 3.13 g for those testing negative.

For those testing positive for the HPV types associated with increased cancer risk, average daily alcohol intake was 5.23 g; while for those testing positive for types not associated with cancer, it was 5.29 g; and for the four types against which the HPV vaccine is active, it was 6.31 g.

When further analysis was done of HPV prevalence, this was significantly higher among men in the top 25% of alcohol consumption compared with the bottom 25%: 68.9% versus 56.7% for any HPV type and 35.2% versus 22.8% for those types associated with increased cancer risk.

The data were also further analysed across

categories of two potentially important risk factors: whether the men were smokers; and the number of sexual partners they said they had had.

The results showed significant associations between the highest levels of alcohol intake and HPV prevalence among those who had never smoked, for any type of HPV and for those types associated with an increased risk of cancer.

There was an association between the highest levels of alcohol intake, HPV prevalence and lifetime sexual partners, but it was not significant, and furthermore, it applied to any number of sexual partners.

This is an observational study, so no definitive conclusions can be drawn about cause and effect, and further research will be needed to confirm the findings. But the researchers point out that because neither smoking nor sexual activity seemed to influence HPV prevalence, some other factor is likely to have been involved, and that could be alcohol.

"Although these results cannot be considered causal and should be interpreted with caution, our findings do provide additional support to current public health messaging regarding the importance of moderate alcohol consumption, smoking cessation, and safe sex practices," they write.

More information: Schabath's study appears in the journal *Sexually Transmitted Infections*: sti.bmj.com/content/early/2014 … 2013-051422.abstract

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