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Case-Control Study of Human Papillomavirus and Oropharyngeal Cancer Gypsyamber D'Souza, et. al.

Substantial molecular evidence suggests a role for human papillomavirus (HPV) in the pathogenesis of oropharyngeal squamous-cell carcinoma, but epidemiologic data have been inconsistent.

We performed a hospital-based, case-control study of 100 patients with newly diagnosed oropharyngeal cancer and 200 control patients without cancer to evaluate associations between HPV infection and oropharyngeal cancer. Multivariate logistic-regression models were used for case-control comparisons.

A high lifetime number of vaginal-sex partners (26 or more) was associated with oropharyngeal cancer, as was a high lifetime number of oral-sex partners (6

or more). The degree of association increased with the number of vaginal-sex and oral-sex partners. Oropharyngeal cancer was significantly associated with oral HPV type 16 (HPV-16) infection, oral infection with any of 37 types of HPV, and seropositivity for the HPV-16 L1 capsid protein. HPV-16 DNA was detected in 72% of 100 paraffin-embedded tumor specimens, and 64% of patients with cancer were seropositive for the HPV-16 oncoprotein E6, E7, or both. HPV-16 L1 seropositivity was highly associated with oropharyngeal cancer among subjects with a history of heavy tobacco and alcohol use and among those without such a history. The association was similarly increased among

subjects with oral HPV-16 infection, regardless of their tobacco and alcohol use. By contrast, tobacco and alcohol use increased the association with oropharyngeal cancer primarily among subjects without exposure to HPV-16.

Oral HPV infection is strongly associated with oropharyngeal cancer among subjects with or without the established risk factors of tobacco and alcohol use. The degree to which oral HPV infection may interact with tobacco use, alcohol use, or both to increase the risk of squamous-cell carcinomas of the head and neck has

been unclear. A greater-than-additive risk has been reported, albeit inconsistently, for patients exposed to both HPV and tobacco and those exposed to both HPV and alcohol. We found that exposure to HPV increased the association with oropharyngeal cancer regardless of tobacco and alcohol use, but we uncovered no evidence of synergy between exposure to HPV and tobacco or alcohol use. For these reasons, our data suggest two distinct pathways for the development of oropharyngeal cancer: one driven predominantly by the carcino-

Continued on reverse

Dental Fun Fact

DID YOU KNOW THAT...

Paul Revere advertised his services as a dentist in a Boston newspaper. In 1776, in the first case of post-mortem forensic dentistry, Revere confirmed the death of his friend Dr. Joseph Warren after the Battle of Breed's Hill, when he identified the bridge he had constructed for Warren.

- ADA

News You Can Use

At the recent 148th Annual Session held in San Francisco, the American Dental Association (ADA) updated its best management practices for the disposal of dental amalgam waster to include the use of separators. These collection devices are installed in dental office plumbing to capture and remove at least 95 percent of solid waste particles before they enter the sewer system. Dental offices using ADA best management practices already capture about 80 percent of waste amalgam. The use of new separators will allow

greater recycling and reduce the amount of amalgam, which contains mercury, entering the wastewater treatment plants. "Dentists across the country have enthusiastically embraced ADA best management practices since we introduced them in 2003, which clearly demonstrates that voluntary programs work," said ADA President Mark J. Feldman, DMD.

For more info, visit www.ada.org

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genic effects of tobacco or alcohol (or both) and another by HPV-induced genomic instability.

The public health implications of our findings are underscored by the annual increases in the incidence of tonsillar and base-of-tongue cancers in the United States

since 1973. The widespread oral sexual practices among adolescents may be a contributing factor in this increase. Our results and those of other studies provide a rationale for HPV vaccination in both boys and girls — since oropharyngeal cancers occur in men and

women. If vaccination is as effective in preventing oral HPV-16 infection as it is in preventing cervical infection, a substantial reduction in the incidence of oropharyngeal cancer in vaccinated populations would provide the ultimate evidence of causality.

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Dr. Brian Simpson

invites you to attend a presentation on

“Patient Acceptance”

- ◆ **Increasing patient acceptance**
- ◆ **Overcoming patient objections and insurance obstacles**
- ◆ **Setting fees and treatment planning implant cases**
- ◆ **How your staff can increase patient acceptance**
(Please bring staff members)

Date: Thursday, January 31, 2008

Time: 6 pm—8 pm (Please bring your implant cases)

Dinner and Presentation

**113 North Middletown Road
Nanuet, NY 10954**

Please RSVP to this free course by January 17, 2008

845-623-3497

“The difference between the impossible and the possible lies in a person’s determination.”

-Tommy Lasorda