What a Dentist Should Know About Oral and Pharyngeal Cancer in Florida

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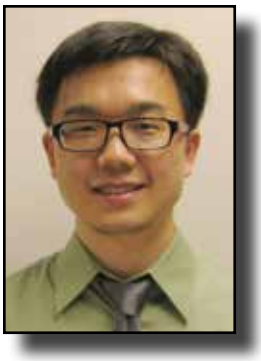

This is the second of our three-part series on oral and pharyngeal cancer (OPC) in Florida.[1] Research for this second report was driven by our desire to broaden our understanding of trends in OPC incidence. Our previous publications provided evidence that the public knows little about OPC. Moreover, the actions taken by most members of the public are based on the notion that if OPC were important, dentists and doctors would have talked to them about it.[2-7]

Our focus group work with our rural north Florida community cohort showed that one reason the public is confused about OPC is that as a health community, we can't agree on a name for this cancer. Is it head and neck cancer, oropharyngeal cancer, oral and pharyngeal cancer, or oral cancer? Our community advisory board suggested that when we talk to people in the community, we refer to the cancer as mouth and throat cancer. We did so, but the challenge remains that even though there are anatomical distinctions based on the label (head and neck, oropharyngeal, oral and pharyngeal, or oral cancer), the public does not understand the differences. The result is that community members often ignore the messages that come from the health community. For those members of the public who have knowledge about OPC (or whatever name they use) and its risk factors, the concern is high and the desire for a screening is present. In the remainder of this article we refer to the cancer as oral and pharyngeal, but try to make anatomic distinctions when appropriate.

Methods

We obtained data from the Florida Cancer Data System (FCDS) from which we calculated time trends in age-adjusted incidence rate (per 100,000 people) and distribution of stage of diagnosis from 1980–2010 (the most recent data available). Stage of diagnosis refers to the size of the tumor, whether the tumor has advanced beyond the local site to a regional site and whether or not the lymph nodes are involved.[8] FCDS is a statewide population-based registry supported by the Florida Department of Health and National Program of Cancer Registries for the Centers of Disease Control and Prevention (CDC). The FCDS collects incidence data throughout Florida from hospitals, pathology laboratories, radiation therapy facilities, ambulatory surgery centers, dermatopathologists' offices, etc. Florida statutes require that all malignant cancers be reported to FCDS.[9] For our study, based on the etiology of the OPCs, we grouped them into oral cancer (floor of mouth, tongue and palate) and pharyngeal cancer (base of tongue, tonsil, oropharynx and hypopharynx). For some of our analyses, we used pre-existing geographic regions (north, central and south) established by the Florida Agency for Health Care Administration (AHCA).[10] We characterized trends in OPC incidence rate using Annual Percentage Change (APC), which is the annual change in age-adjusted incidence rate across years.[11] Our measures are standardized based on the age distribution of our state found in the 2000 U.S. population census data. In this paper, we will summarize our key findings[12, 13] and discuss the implications for practicing dentists.

Results

Between 1980 and 2010, we found: (1) there was significantly decreasing incidence for oral cancer for both men and women, but the percentage of late-stage (tumor has advanced beyond the local site and lymph nodes are involved[8]) diagnoses has remained similar at 40-45 percent; (2) there was significantly increasing incidence for pharyngeal cancer in men, with pharyngeal cancer accounting for a higher percentage of total oral and pharyngeal cancers in Florida than in the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) data registry (52 percent versus 35 percent);[13] and (3) although all male age groups show increasing incidence in pharyngeal cancer, the most dramatic increase occurred in Caucasian men between 45-64.

We further analyzed the data for the 45- to 64-year-old Caucasian males by examining the incidence of pharyngeal cancer by geographic region of Florida. Our rationale for this analysis was to determine if this disturbing increase in incidence was consistent throughout the state or limited to certain locales. We found that the incidence of pharyngeal cancer among 45- to 64-year-old Caucasian men was significantly increasing in all three geographic regions of Florida. The annual percentage change ranged from 2.23 in central Florida ($p<0.0001$) to 2.51 in northern Florida ($p<0.0001$) to 3.14 in southern Florida ($p<0.0001$). We also examined the stage at which these 45- to 64-year-old Caucasian men were being diagnosed by geographic region. Particularly worrying is that we found the percentage of late-stage diagnoses for pharyngeal cancer was increasing in all three regions of Florida. As of 2010, for the group of 45- to 64-year-old Caucasian men, nearly 85 percent of the pharyngeal cancer cases in all three geographic regions were diagnosed at the late stage.

Discussion

The key findings were that from 1980–2010, cases of pharyngeal cancer were increasing in all males and the most dramatic increase was among 45 to 64-year-old Caucasian men. Among this group, the cancer was being diagnosed at a later stage, and this phenomenon was observed in the northern, central and southern regions of Florida.

The FCDS does not record data on the association of Human Papilloma Virus (HPV) and pharyngeal cancer in Florida. However, the CDC does and issued an updated report on March 27, 2014. This report showed that in histologically and microscopically confirmed squamous cell carcinomas among men, Florida was among the top tier of states with most HPV-associated pharyngeal cancer (rate per 100,000 = 7.11-8.52).[14] The CDC reported the median age at diagnosis for HPV-associated pharyngeal cancer in the United States was 58[15]. Our data for pharyngeal cancer in Florida showed the increase in incidence was similar with the most problematic group,

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Fig. 1

Does Your Patient Know These Signs and Symptoms of OPC?*

- ❍ sore in the mouth or on the lip that does not heal (the most common symptom)
- ❍ red or white patch on the gums, tongue, tonsil or lining of the mouth
- ❍ lump on the lip, mouth, neck or throat, or a feeling of thickening in the cheek
- ❍ persistent sore throat or feeling that something is caught in the throat
- ❍ hoarseness or change in voice
- ❍ numbness of the mouth or tongue
- ❍ pain or bleeding in the mouth
- ❍ difficulty chewing, swallowing, or moving the jaws or tongue
- ❍ ear and/or jaw pain
- ❍ chronic bad breath
- ❍ changes in speech
- ❍ loosening of teeth or toothache
- ❍ dentures that no longer fit
- ❍ unexplained weight loss
- ❍ fatigue
- ❍ loss of appetite, especially when prolonged; this may happen later in the course of the illness.

*http://www.cancer.net/cancer-types/oral-and-oropharyngeal-cancer/symptoms-and-signs

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45- to 64-year-old Caucasian males. Thus, it seems reasonable that HPV is playing a role in the rising incidence of pharyngeal cancer in Florida. Dentists should be aware that the HPV vaccine is effective[16] and is approved for both adolescent males and females. The American Dental Association recommends that dentists educate themselves and patients about the relationship between HPV and oropharyngeal cancer.[17, 18] Based on our research results, it's especially important for dentists to consider advising parents of male children about the importance of HPV vaccination in the face of the increasing incidence of pharyngeal cancer in men.[19, 20]

Implications

The take-home message for dentists and their staff is that oral and pharyngeal cancer screenings are important, especially for the 45- to 64-year-old Caucasian male. The 45- to 64-year-old male is notorious for being "too busy" to visit the health care provider, including the dentist.[21] Getting the wives, mothers, significant others and friends involved to encourage more frequent dental visits for this age group may be a critical step in saving these males from the devastating effects of a late-stage OPC diagnosis. Dentists and their staff should create a buzz in their community about OPC. This buzz may then set these at-risk men into action and get them into the dental practice where an OPC screening can occur as a part of routine dental care.[18] Do people in your community understand that oral cancer may be called a different name by their physician? Are your OPC examination procedures up to date?[22] The OPC examination process should include examining as far back in the throat as you can, feeling for suspicious lymph nodes in the neck, asking questions about sore throats, sores that aren't healing and lingering coughs (**Fig. 1**).[22] Your efforts to inform the public about OPC and your examination could save one of these men from the long and costly effects of both the cancer and the cancer treatment.[23]

There are a few websites that include non-copyrighted material that you may use for your practice and your patients:

- Our website, www.take-the-bite.dental.ufl.edu, has material for patients or other health professionals under the "Resources" tab.
- Another site with valuable information that includes videos of the OPC examination is www.nidcr.nih.gov/oralhealth/Topics/OralCancer/DetectingOralCancer.htm#TheExam.
- The annual Oral Pathology Symposium focuses on topics ranging from HPV-driven cancers to other lesions commonly encountered in general and specialty dental practice. Go to www.ce.dental.ufl.edu/courses/oral-pathology-symposium for current registration and content information.

References

1. Logan H. Public awareness of oral and pharyngeal cancer. Today's FDA 2014; (September/October):38-41.
2. Choi Y, Dodd V, Watson J, et al. Perspectives of African Americans and dentists concerning dentist-patient communication on oral cancer screening. Patient Educ Couns 2008; 71(1):41-51.
3. Dodd VJ, Watson JM, Choi Y, Tomar SL, Logan HL. Oral cancer in African Americans: addressing health disparities. Am J Health Behav 2008; 32(6):684-92.
4. Riley JL, 3rd, Dodd VJ, Muller KE, Guo Y, Logan HL. Psychosocial factors associated with mouth and throat cancer examinations in rural Florida. Am J Public Health 2012; 102(2):e7-14.
5. Riley JL, Pomery EA, Dodd VJ, et al. Disparities in knowledge of mouth or throat cancer among rural Floridians. J Rural Health 2013; 29(3):294-303.
6. Shepperd JA, Howell JL, Logan H. A survey of barriers to screening for oral cancer among rural Black Americans. Psychooncology 2014; 23(3):276-82.
7. Logan HL, Shepperd JA, Pomery E, et al. Increasing screening intentions for oral and pharyngeal cancer. Ann Behav Med 2013; 46(1):96-106.
8. Werning JW. Oral cancer: diagnosis, management, and rehabilitation. 1st ed. New York: Thieme Medical Publishers, Inc; 2007.
9. Ren C, Lim,S.,Hylton,T.,et al. Florida annual cancer report: 2008 incidence and mortality,. Tallahassee, Fl.: Florida Department of Health; 2012.
10. Logan HL, Guo Y, Dodd VJ, Seleski CE, Catalanotto F. Demographic and practice characteristics of Medicaid-participating dentists. J Public Health Dent 2014; 74(2):139-46.
11. National Cancer Institute Surveillance research cancer control and population sciences: Average annual percent change (AAPC). Washington, DC: 2012. „http://surveillance.cancer.gov/joinpoint/aapc.html". Accessed September 23, 2014.
12. Guo Y, McGorray SP, Riggs CE, Jr., Logan HL. Racial disparity in oral and pharyngeal cancer in Florida in 1991-2008: mixed trends in stage of diagnosis. Community Dent Oral Epidemiol 2013; 41(2):110-19.
13. McGorray SP, Guo Y, Logan H. Trends in incidence of oral and pharyngeal carcinoma in Florida: 1981-2008. J Public Health Dent 2012; 72(1):68-74.
14. Centers for Disease Control and Prevention HPV- Associated oropharyngeal cancer rates by state. Atlanta, GA.: 2014. „http://www.cdc.gov/cancer/hpv/statistics/state/oropharyngeal.htm". Accessed September 23, 2014.
15. Centers for Disease Control and Prevention APV-Associated cancers diagnosis by age. Atalnta, GA.: 2012. „http://www.cdc.gov/cancer/hpv/statistics/age.htm". Accessed September 23, 2014.
16. Ferris D, Samakoses R, Block SL, et al. Long-term study of a quadrivalent human papillomavirus vaccine. Pediatrics 2014; 134(3):e657-65.
17. Shepperd JA, Howell JL, Catalanotto F, Dodd VJ, Logan HL. The decision to counsel adolescents about HPV. Am J Health Behav 2013; 37(6):755-62.
18. American Dental Association Statement on human papillomavirus and squamous cell cancers of the oropharynx. 2014. „http://www.ada.org/en/about-the-ada/ada-positions-policies-and-statements/statement-on-human-papillomavirus-and-squamous-cel". Accessed October 22, 2014.
19. Liddon N, Hood J, Wynn BA, Markowitz LE. Acceptability of human papillomavirus vaccine for males: a review of the literature. J Adolesc Health 2010; 46(2):113-23.
20. Liddon N, Michael SL, Dittus P, Markowitz LE. Maternal underestimation of child's sexual experience: suggested implications for HPV vaccine uptake at recommended ages. J Adolesc Health 2013; 53(5):674-6.
21. Wiener RC, Wu B, Crout RJ, et al. Hygiene self-care of older adults in West Virginia: effects of gender. J Dent Hyg 2012; 86(3):231-8.
22. Clark N, Marks J, Sandow P, Seleski C, Logan H. Comparative effectiveness of instructional methods: Oral and pharyngeal cancer examination. J Dent Educ 2014; 78(4):622-29.
23. Jacobson JJ, Epstein JB, Eichmiller FC, et al. The cost burden of oral, oral pharyngeal, and salivary gland cancers in three groups: Commercial insurance, Medicare, and Medicaid. Head Neck Oncology 2012; 4:15.