

EDITORIAL

Oral cancer screening for asymptomatic adults: do the United States Preventive Services Task Force draft guidelines miss the proverbial forest for the trees?

As experts in the field and regular readers of this journal, we are all acutely aware of the sobering statistics on oral cancer: in the United States there are an estimated 275,000 men and women alive with a prior diagnosis of oral cavity or pharyngeal cancer.¹ It is estimated that an additional 41,000 cases will be diagnosed in 2013 alone, with just under 8000 individuals dying of their disease.² For the period 2003-2009, the estimated 5 year relative survival rate for patients diagnosed with oral and pharyngeal cancer is 62%.¹ For black men, the results are more discouraging, with a 5 year relative survival of just under 40%. Looking at lifetime risk, a child born today has an estimated 1.1% likelihood of developing oral cavity or pharyngeal cancer at some point during their life.³ The stage at which the cancer is diagnosed has a significant effect on overall survival. Localized disease, representing disease confined to the primary site, is associated with an 83% 5-year survival rate. With spread to the regional lymph nodes, the 5-year survival drops to just under 60%. The statistics are even grimmer in the presence of distant metastasis, with the 5-year survival dropping to 36%.

With that backdrop in mind, the United States Preventive Services Task Force (USPSTF) recently released a draft Recommendation Statement which concluded that for adults age 18 years or older seen in the primary care setting, the “current evidence is insufficient to assess the balance of benefits and harms of screening for oral cancer in asymptomatic adults. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.”

Rather than representing a paradigm shift, this statement is simply an update of the 2004 USPSTF recommendations, which similarly concluded “there was insufficient evidence to recommend for or against routine screening for oral cancer in adults.”⁴ Other expert groups have reached comparable conclusions. For example, the reader is referred to the “Evidence-based clinical recommendations regarding screening for oral squamous cell carcinomas”⁵ recently published by a panel convened by the American Dental Association (ADA) Council on Scientific Affairs, which, however takes a more pragmatic approach to this question.

Specifically, the USPSTF was unable to offer a recommendation on the benefits versus risks of routine visual oral cancer screening of asymptomatic patients

who present in the primary care setting. This decision was based on their assessment of a lack of evidence with respect to 3 questions: how well do oral cancer screening exams detect disease? Do the harms associated with screening outweigh the potential benefits? Does detection of oral cancer through screening reduce morbidity or mortality?

Rather than arbitrarily denouncing the entirety of these recommendations, the authors are to be at least commended for highlighting the risk factors for developing oral cancer: smoking, heavy alcohol consumption, betel quid use, and, for a subset of oropharyngeal cancers, infection with high risk human papillomavirus virus (although I disagree with the suggestion that there is sufficient evidence at this point to include infection with candida or bacterial flora as definitive oral cancer risk factors). These comments may help to educate both the general public as well as those health care providers who may have less experience in this area. The guidelines also accurately note that potential screening adjuncts, such as toluidine blue, chemiluminescence, autofluorescence and brush cytology lack sufficient evidence to recommend their routine use in the primary care setting. In low risk populations, reliance on the results of these screening adjuncts, in the absence of clinical correlation, is associated with an unacceptable rate of false positives. Likewise, the absence of well-designed studies evaluating the risks and benefits of oral cancer screening that are of direct relevance to the population of the United States (the target audience of this draft statement) must be acknowledged.

However, an alternative approach to looking at this question should be considered, one that also requires examining this issue from a clinical perspective (curiously, there is no indication that the USPSTF sought input from clinical specialists in this area; namely oral pathologists, oral surgeons, general dentists, public health dentists, etc.). Let me clarify, before being misquoted, that I am not implying that biomedical science and clinical care are opposing paradigms. We are all acutely aware that, as health care providers, treatment decisions must be based on a solid evidence-based foundation backed by rigorous scientific investigation. Rather, the approach that should be followed in answering this question is one that reconciles the available evidence, or lack thereof, with a more

clinically applicable approach that takes into account the realities of the primary care dental setting. With that in mind, let's review these areas:

1. How well do oral cancer screening exams detect disease (i.e., their performance characteristics)?

For the purpose of this discussion, the screening examination should be defined as a thorough visual and tactile inspection of the head and neck structures and the accessible oral cavity executed by a well-trained general dentist in the primary care dental setting, and performed on all patients of record as part of the routine patient assessment process.⁶ As needed, this is supplemented by biopsies of any areas of suspicion, with the goal being to identify all variations from normal, including but not restricted to potentially preneoplastic conditions (I prefer this term over the World Health Organization's terminology of "potentially malignant disorders") and early stage oral cancer.

As noted in the USPSTF report, the 2 studies that most approximate these characteristics are from the United Kingdom, which has an oral cancer prevalence similar to that of the United States. These studies reported sensitivities in the low 70s and specificities approaching 100%, although these also highlighted the dilemma of identifying the gold standard, which in these studies was a second examination by a specialist in oral pathology, oral medicine.

Examining this from a more pragmatic perspective, considering that greater than 90% of intraoral malignancies are represented by squamous cell carcinomas, a neoplasm of surface epithelium, a thorough visual and tactile examination by a well-trained dentist in the primary care setting, coupled with a reasonable degree of suspicion for all white, red or ulcerated lesions of undetermined etiology, should permit identification of the vast majority of early oral squamous cell carcinomas. Clearly, the accuracy with which dental providers in the primary care setting can identify and triage potentially preneoplastic conditions and early stage oral cancer is dependent on both their training and clinical experience. Consequently, as educators, it is critical that our dental school graduates are both proficient and confident in their ability to assess soft tissue lesions. Additionally, as suggested in the recent guidelines from the ADA's Council on Scientific Affairs referred to previously, "the clinician can reduce the risk of performing unnecessary biopsies by obtaining an opinion by a dental or medical care provider who has advanced training and experience in diagnosis of oral cancer and its precursor lesions."⁵

More importantly though, these guidelines fail to recognize that it is not realistic to separate the oral cancer screening component from the overall comprehensive head and neck examination that all primary

care dental providers perform on their patients. This intraoral and extraoral examination is arguably the most important component of every dental patient's routine assessment, and includes a thorough review not just of the teeth and periodontal supporting structures, but of all hard and soft tissues of the visible oral cavity, as well as the cervical area and the skin of the face. The purpose of this examination is to identify every departure from normal, ranging from the more common tooth-related conditions, such as necrotic teeth and periodontal disease, to infectious processes (e.g., candidiasis; oral manifestations of human immunodeficiency virus infection; deep fungal infections), reactive soft tissue lesions (e.g., mucoceles, fibromas), and immune-mediated processes (e.g., lichen planus, pemphigoid), to name a few. The diagnosis and management of these non-malignant processes is a critical component of the day-to-day practice of dentistry,⁷ and consequently the identification of these conditions cannot be arbitrarily separated from the "oral cancer" screening exam.

2. Do the harms associated with screening outweigh the potential benefits?

The draft version of the USPSTF report states that "none of the studies in our review reported on harms from the screening test itself or from false-positive or false-negative test results. Screening using visual inspection and palpation should be low risk. However, any time devoted to it would reduce opportunity for other interventions that might have greater impact on health outcomes."

In reality, a thorough head and neck examination by a well-trained and competent dentist in the primary care setting requires no special equipment (good lighting, a dental mirror, and gauze), no additional expense, and at most 2-3 minutes of the practitioner's time. Other than the minor potential surgical risks associated with a biopsy procedure, where deemed necessary, routine oral screening is in no way an invasive, time consuming, or costly procedure, and is not associated with any significant potential intra-procedural morbidity (e.g., perforation following colonoscopy for the detection of colorectal cancer) or long-term sequelae resulting from exposure to ionizing radiation (e.g., mammography for the detection of breast cancer).

It is also worth pointing out that the potential benefits of performing an oral cancer screening examination are not simply limited to detecting patients with oral cancer or potentially preneoplastic conditions. In addition to the many more commonly encountered conditions that are identified by means of the examination, this is also an opportunity to start a dialogue between clinician and patient on modifying risk factors that are associated

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