Semantics Undermines the Oral-Systemic Disease Message

On April 18, 2012, the American Heart Association (AHA) presented a position paper which left the impression that optimally treating oral disease will not reduce a person’s risk of systemic disease.

A PHYSICIAN’S PERSPECTIVE

As a physician, I feel compelled to offer a different perspective about how we should think about the oral-systemic connection. In my practice, I have observed significant improvement in vascular inflammatory markers in people who have implemented an optimal oral health program. These patients are those who have nonobstructive vascular disease, but many have minimal abnormalities in traditional risk factors. Most were motivated to implement an optimal oral health program because saliva testing revealed DNA evidence of high levels of oral bacteria associated with cardiovascular disease (CVD).

I feel the AHA presentation of the data is confusing. The AHA is focused on denouncing definitive causality when, in fact, most research and American Academy of Periodontology position papers take great pains to accurately discuss periodontal disease as being an associated link to various systemic disorders, including CVD. Unfortunately, this semantic nuance is lost on the average consumer, physician, and perhaps even some dental practitioners as well. The end result may be more patients and practitioners asking themselves, “What’s a little blood in the sink?” thus perpetuating, and even increasing, the epidemic of undiagnosed and untreated periodontal inflammation in the United States.

I will offer an explanation of why the presence of high-risk oral bacteria is very likely an unrecognized contributor to vascular disease. Optimally attending to our oral health may significantly reduce the risk of events and the progression of existing disease, especially in those with concomitant cardiovascular risk factors.

THE PROBLEM

The AHA acknowledges that there is an association between oral disease and systemic disease. It even acknowledges that treatment of periodontal disease reduces systemic inflammation and endothelial dysfunction, which are both known risk factors for CVD. Its report emphasizes that research has not yet proven that oral disease is a cause of vascular disease, and it says larger prospective studies are needed to prove causality. This is correct. However, the AHA fails to emphasize that no study has disproven the theory that oral disease is one of many causes of vascular disease. The problem is that significant money and continued on page 12
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many years are needed to complete those studies to establish definitive proof.

This is a common problem in the field of medicine. Academic physicians insist on repeated large prospective studies before recommending an intervention as standard of care. This process can take many years to accomplish. While awaiting study funding and completion, many safe, effective treatments go underutilized.

In an attempt to practice optimal care, physicians, on the front line in the battle to help our patients, strive to create optimal health. We base our core recommendations on proven guidelines that have been established as the standard of care by academic physicians. Then, we search for treatments that are low-risk for the patient and have evidence that suggests efficacy.

I believe that solid evidence suggests that eliminating high-risk oral bacteria is an optimal treatment that will eventually acquire enough evidence to become standard of care.

THE SCIENCE

The AHA agrees that evidence shows a clear association between the presence of certain high-risk oral bacteria and vascular disease:

• Several studies have found DNA evidence of oral bacteria inside the plaque of diseased carotid arteries removed during surgery.
• Multiple studies have shown that individuals with high levels of these oral bacteria have a significantly increased risk of heart attack and stroke, as compared to those with low levels of these bacteria.
• Oral bacteria are found in our bloodstream 15 minutes after eating an apple, thus necessitating for some with valve disease to receive prophylactic antibiotics prior to dental work.
• Treating periodontal disease improves systemic inflammation and endothelial dysfunction. Both are known contributors to vascular disease.
• High levels of causative bacteria may be present without any identifiable gum disease.

Although these are observational studies and not the large blinded prospective studies that academic physicians require to prove causality, they are well designed and have been published in reputable journals. (On a personal note: I don't want these bacteria in my mouth!)

PERSONAL OBSERVATIONS

For the past 2 years, I have practiced a method of heart attack and stroke prevention supported by cardiologists at the Cleveland Clinic. The method attempts to go beyond standard of care to optimally reduce events in people at risk for vascular disease. The Cleveland Clinic has even partnered with the American Academy of Oral Systemic Health (aaosh.org), an organization of dentists that speaks out about the oral-systemic connection.

The method includes measuring established inflammatory markers and intervening when they are elevated. One of the markers is lipoprotein-associated phospholipase A₂ (Lp-PLA₂). Lp-PLA₂ is US FDA-approved to assess a person’s risk for heart attack and stroke, and is arguably the most valuable inflammatory marker measurement available. Drugs and supplements do not significantly lower Lp-PLA₂. I have found the single most effective way to lower an elevated Lp-PLA₂ is for the patient to regularly practice optimal oral healthcare at home.

I have also been given the privilege of being selected as a pilot site for physicians to use a test that measures levels of oral bacteria that may lead to vascular disease. Almost always, when a person has an elevated Lp-PLA₂ and a normal C-reactive protein (high-sensitivity CRP [hsCRP]), at least one of the high-risk bacteria is present at high levels. The hsCRP is a more commonly tested inflammatory marker, but may be missing significant risk in some people.

MY OPINION

Today’s optimal care often becomes tomorrow’s standard of care.

There is absolutely no risk to optimal dental care and optimal home oral hygiene. So, let’s consider some simple and yet profound logic. What is the repercussion if we assume that oral bacteria contribute to vascular disease and it turns out that we are wrong? We would have less dental disease but no reduced vascular risk. What is the repercussion if we assume that oral bacteria do not contribute to vascular disease and are wrong? We miss the opportunity to significantly impact the lives of millions of people who are on the path to suffer a cardiovascular event!

Although more controlled clinical research needs to be conducted in the name of evidence-based dentistry, investment funds for future research may now be in jeopardy.

CLOSING COMMENTS

In my opinion, the AHA is irresponsible by making a statement that deceptively leads people to believe that oral disease does not contribute to vascular disease. Although definitive causality has not yet been proven, there is strong body of evidence to suggest that certain high-risk oral bacteria may be an under-identified cause of heart attacks, strokes, and the progression of atherosclerosis.

The AHA statement enables people to neglect optimal oral care; many of whom already fear going to the dentist. Periodontists, general dentists, hygienists, and physicians who recognize the oral-systemic connection have been undermined after their patients have been told via mass media that everything they were previously told about the importance of oral hygiene, in relation to optimizing cardiovascular and overall systemic health, is no longer valid.

Physicians and dentists need to collaborate. More emphasis, not less, should be placed on the need for everyone to regularly practice optimal oral care if individuals are to truly create health in their lives.