Big Breakthrough for Controlling Bad Breath

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What causes Bad Breath?

Bad breath (aka Halitosis, Oral Malodour), has been a scourge of mankind probably from the beginning of time. It is a delicate subject, even between mates and close friends - perhaps the quintessential "Elephant in the Room." Bad breath can have a multitude of causes, but the main one is volatile sulfur compounds (VSC's) that are contained in foods such as garlic, onions, tuna fish, curry, etc., and within the gaseous products emanated from toxic bacteria that reside within the biofilm that lines all surfaces of the mouth including the teeth. According to a recent study, ninety percent of people between the ages of 16 and 40 feel that having bad breath is "the worst social mistake one can make." So what causes this embarrassing condition and what can we do about it?

Common Bad Breath Remedies

Mouthwashes have been used since the time of Hippocrates, who developed a mouthwash of wine, anise, dill and myrtle. The shelves of your local pharmacy and convenience stores are well stocked with breath remedies, most of which simply mask the odor for a short time, not dealing with its cause. Competition for the most effective rinses as a commercial solution for this problem has created a billion dollar industry. They all contain chemicals that may temporarily work at the surface of the problem, but do not address the deeper, underlying cause - VSC's.

What About VSC's?

Volatile sulfur compounds contained in bad breath foods resemble those excreted by the anaerobic bacteria found in the mouths of those who suffer from chronic bad breath, so limiting or eliminating these foods may help the problem. But what about the main cause – the bacteria giving off VSC's that live in the biofilm that lines the inner surfaces of our mouths and teeth?

The Oral Habitat

The mouth is a friendly environment for many types of bacteria – it is warm, nutrient-rich, continuously bathed with saliva, and has a pH level typically between 6.5 and 7.25. Consequently, the mouth is home to a rich microbiota, most of which are beneficial organisms that live in harmony with each other and the host. The presence of oral microbes is essential for maintaining the normal physiology of the oral cavity. While this symbiosis is usually stable and mutually beneficial, if some external force changes the balance, the ensuing oral microbial degradation that occurs results in the proliferation of anaerobic bacteria that cause tooth decay, gum disease, and - bad breath.

Two Sides of the Same Coin

The truth is that bad breath from a disrupted microbiota means oral disease - from simple gum inflammation to severe periodontal disease, neither of which is painful and the main reason that it is dubbed "mankind's most prevalent disease." When asked the question of what is mankind's most prevalent disease, most people would say the common cold. But since colds and similar infectious diseases caused by a temporary infection go away in a few days or a week, probably at any time only one percent of the population has colds. But depending upon age, at any moment well over half the population has gum disease since once you get it, it doesn't go away without treatment, and according to insurance statistics, less than 5% are getting treatment.

Significance of the Problem

The reciprocal relationship between oral health and systemic disease is definitely becoming more established. Sir William Osler, described as the "Father of Modern Medicine" is quoted as saying, "The mouth is the mirror to the overall health of the body." The health of the body can both influence and be influenced by the health of the mouth. For example, various groups of spirochetes have been problematic over the ages and are responsible for syphilis and Lyme disease. We now have information that oral spirochetes are present in the brains of many Alzheimer's patients. Could these pathogenic bacteria cause dementia? Another example: The March, 2013 edition of the American Heart Association journal *Circulation* cites groundbreaking research showing the direct connection between oral pathogens (associated with periodontal disease and tooth decay) and acute heart attacks. It tells us that as many as half of heart attacks are being triggered by oral pathogens. **Oral bacteria were found in every thrombus, and 30% had live oral pathogens in the clot!**

But what if you don't have Gum Disease but have Bad Breath?
For many individuals who suffer from bad breath, although the toxic bacteria are present in large numbers, the immune system in the mouth ignores this infection. When the immune response is active, this results in inflammation which we know as gingivitis and breakdown of tissues which we call periodontitis. When the immune cells ignore toxic bacteria, they proliferate and through the slow breakdown and digestion of the oral tissues, create the smelly by-products of their digestion that we call VSC's.

Viva La Difference
Dental plaque is a biofilm, and I have used phase contrast microscopes in my office for over 35 years as a cursory assessment to determine the basic nature of the bacteria present in the plaque within my patients' mouths - their type, amount and rapidity of movement – factors that determine its degree of its toxicity. It also offers an enlightenment opportunity for dental patients during a co-learning process in establishing the mutual responsibilities of the dentist and patient. I can say that I have yet to see two plaque samples alike, even when taken from various areas of the same patient's mouth. What does that tell us? Perhaps that our mouths, like we as persons, are each unique like fingerprints.

Oravital - A Mixed Blessing
We are pleased and excited to announce that the Dental Wellness Center now has an effective solution for bad breath, while at the same time improving the health of the oral environment. While the phase contrast microscope helps in determining the relative virulence of the bacteria residing within a patient's plaque, it is not able to discern all of the bad guys from the good guys. Hence, our treatment protocols, although somewhat effective, were basically a shotgun approach. With the advent of our new Oravital protocol, we now have the capability to analyze the entire oral environment through an array of assessments, including taking biofilm samples of all areas within the mouth which are sent to a laboratory for analysis. The results allow us to offer effective solutions for bad breath along with controlling periodontal disease by dealing with the specific bacterial population that exists in each patient's mouth. Now, that's a real breakthrough!