Case history

Tony, a 55-year-old man has not been to the dental office for 9 months. During the previous recall appointment, Tony expressed the desire to stop smoking. He has been smoking more than 20 cigarettes daily since the age of 18. The dental hygienist referred the patient for smoking cessation counselling. The patient reports his mouth is always dry and he constantly eats sweets to alleviate the oral dryness.

Medical history

Depression since his wife died one year ago.

Medication

Bupropion HCL prescribed for smoking cessation.

Dental history

The patient used to be motivated and maintained good oral hygiene. However, since the last recall appointment the oral tissues have changed.

Clinical situation/mouth inspection

The oral tissues are inflamed with generalized marginal gingivitis, bleeding upon probing with periodontal pocketing in the posterior sextants with pocket depths of 4–5 mm. Moderate accumulations of interproximal food debris and biofilm (Fig. 1).

Radiographic image

Minor horizontal bone loss in the interproximal areas of 13, and 22 is visible. Dental caries are evident on the mesial of no. 22.

Questions

1. What is the primary factor contributing to the food debris and bioflim accumulations on the tooth surfaces?

2. The patient reports of 'oral dryness'. What could be the etiological factor?

3. What suggestions would you give the patient to alleviate his oral dryness?

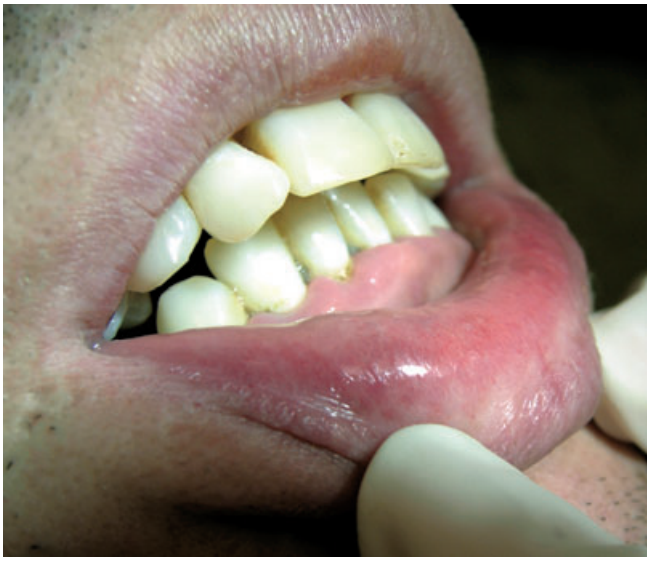

Fig. 1. Accumulations of food debris and biofilm.

4. What was the rationale for prescribing Bupropion HCL for this patient?

Answers/rationale

1. The reduction of saliva has resulted in the limited clearance of food debris from the oral cavity, resulting in an increase accumulation of food deposits and biofilm. The dry oral tissues become inflamed and prone to infection. Without the cleansing and shielding effects of adequate salivary flow, and poor oral hygiene tooth decay and periodontal (gum) disease become more common (1–3).

2. The symptom of dry mouth is commonly known as xerostomia or hyposalivation. This oral condition can result from physiological or secondary etiological factors (4). The improper function of the salivary glands can be an adverse effect of over 400 prescribed or over-the-counter medications (5). The medications include antihistamines, decongestants, painkillers, diuretics, antihypertensives and antidepressants (6, 7). One of the pharmacological treatments prescribed for smoking cessation is Bupropion HCL, which has the side effect of causing oral dryness (8).

3. To alleviate the sensation of dry mouth and to maintain lubrication of the oral cavity, the patient is instructed to increase their fluid intake using non-cariogenic beverages. The dentist/hygienists or physician may recommend using artificial saliva available over-the-counter to keep the oral tissues moist.

Nutritional counselling is discussed at each appointment focusing on foods to avoid that contribute to oral dryness. Maintaining good oral hygiene is critical for the patient with dry mouth. The patient is educated to brush twice a day, use dental floss and/or interdental cleaner at least once a day to remove debris from between the teeth to minimize decay and periodontal disease. The dentist may recommend additional fluoride products to help control tooth decay.

Other remedies include:

- Sugar-free gum or candy (to stimulate salivary flow).
- Frequent sips of water.
- Alcohol-free oral rinses.
- Restrict intake of caffeine.
- Avoid tobacco avoid the intake of alcohol and carbonated beverages.
- Minimize your intake of spicy or salty foods as these may cause pain in a dry mouth.
- Use a humidifier to increase the humidity in your home, especially at night.
- Moisten foods with broths, soups, sauces, gravy, creams, and butter or margarine. Eat soft, moist foods that are cool or at room temperature.
- Use a soft-bristled toothbrush on your teeth and gums; rinse your mouth before and after meals with plain water or a mild mouth rinse (made with 8 ounces of water, ½ teaspoon salt, and ½ teaspoon baking soda).
- Schedule more frequent dental visits

4. Bupropion HCL is a pill prescribed to reduce tobacco craving (9, 10). The mechanism of action is not the same as with nicotine replacement therapy (11). Doctors also prescribe Bupropion HCL (under the brand name Wellbutrin) to treat depression. However, its ability to help people quit smoking is not related to the antidepressant action (7). Bupropion hydrochloride can assist with smoking cessation even if the patient has not been diagnosed with depression. It is a relatively weak inhibitor of the neuronal uptake of norepinephrine, serotonin, and dopamine, and does not inhibit monoamine oxidase (7, 8, 12). The exact mechanism by which Bupropion HCL enhances the ability of patients to abstain from smoking is unknown; however, it is presumed that this action is mediated by noradrenergic or dopaminergic mechanisms (13, 14).

Acknowledgement

Photograph courtesy of Dr. Gwen-Cohen Brown, Dental Hygiene Program, New York City College of Technology NY.

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