Gum disease matters!

Periodontal diseases are abnormal processes affecting the gum, mostly gingivits and periodontitis. Gingivitis is an inflammation of the gum, and periodontitis occurs when this inflammation progresses deeper into the gum affecting tooth support.

Teeth are anchored to the bone by a complex network of ligaments (somehow like the ropes in a trampoline) that get into the outer layer of the tooth root (cementum).

The very small gap between the tooth and the bone that houses the ligament is covered by the gum. This part of the gum is also attached by a ligament to the tooth (the closest part to the bone), and by epithelium (the outer lining of the gum) in the most superficial bit. All these parts can be damaged by inflammation in many ways and degrees.

Fig. 1.

These inflammatory gum disorders are common worldwide, as 90% of adults are affected. Almost one third of them experience periodontitis, which is grave in 5-10% of the cases. These advanced cases often show a disease progression slow enough to retain teeth throughout the person's lifespan. Therefore, loosing teeth by gum disorders at advanced ages can be avoided.

Gingivitis and periodontitis are caused by dental plaque (bacteria) on the tooth surface close to the gum. However, some persons are able to bear large amounts of plaque on their gums with minor affection whereas some others experience advanced disease with relatively small amounts of dental plaque. The explanation for this phenomenon is that bacteria are the main cause of gum disorders, but not the only one: There is a balance between the person's ability to defend from bacteria and their “ability” to damage the gum. Thus, any circumstance compromising the subject defenses (e.g: a disease) or increasing bacteria aggressiveness may result in disease when the balance is broken.

You can tell gingivitis is present by looking for redness and swelling in the gums (spongy), which bleed easily when touched by the toothbrush. Sometimes this inflammation progresses towards the bone and enlarges the small gap (1 to 3mm deep) existing between the tooth and the gum in healthy conditions. This enlarged space is called “pocket” and it is frequently ulcerated at the bottom. This ulceration is the only barrier between bacteria and blood vessels, allowing toxic bacterial byproducts to mix with circulating blood. These toxins may cause health problems elsewhere in the person's body. This risk may seem irrelevant as these “gates” are very small but, putting all of them together, they may be as large as 72 cm^2 (the size of the palm of your hand) in mild periodontitis cases. The main symptoms of periodontitis, apart from gum redness and swelling, are retracted gums, tooth displacement and, eventually, mobility.

Plaque-related gum disorders can be prevented by daily removal of bacterial deposits from tooth surfaces. This can be accomplished by mechanical (brushing and flossing) and chemical (mouthrinses) methods. Lack of adequate plaque removal is very often due to an inadequate brushing/flossing technique, so the use of plaque disclosing agents is strongly recommended to assess tooth brushing performance.

Treatment of gum disorders also deals with removal of bacterial deposits, both over the gum (scale and polish) and underneath it (scaling and root planning), in combination with a careful self-care techniques (brushing and flossing). In some situations, deeper access may be needed for treating advanced disease and gaining tooth support. In this circumstances the gum is usually detached from the tooth and bone to be sutured again in place after treatment (gum surgery).

Recent research has related gum disorders with systemic (general) diseases, such as diabetes, heart diseases, respiratory disorders (pneumonia), and low-weight birth.

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