

fact file 26

Diabetes & oral health

Diabetes affects oral health, and vice versa – but this important aspect of diabetes care is often overlooked. Dentist and specialist periodontist **Dr Leticia Casanova**, Clinical Director of Diabetes Dental Care, London, reviews the interplay between diabetes and oral health, including how the latter may affect glucose control

Oral disease affects not just teeth and gums but is also associated with many chronic conditions, including coronary heart disease, rheumatoid arthritis and diabetes. Poor glycaemic control in diabetes increases both the prevalence and severity of gum disease (periodontitis) and vice versa – hence gum disease may be three times more prevalent in patients with diabetes¹. Untreated gum disease is strongly associated with an increase in glucose levels for patients with and without diabetes. Diabetes may also result in dry mouth (xerostomia), which can lead to a higher risk of decay, oral fungal infections, chronic mouth ulcers and infections of the parotid salivary gland.

Gum disease

Gum disease is the most common chronic inflammatory condition in man and the most neglected globally, according to the World Health Organisation and the US Surgeon General². The inflammation and infection affects not only the gums, but can also affect the bone that supports the teeth. It is initiated by the accumulation of a bacterial biofilm below the gum level, called plaque. Susceptibility to gum disease is increased by tobacco smoking and diabetes. The resulting damage to gums and bone is largely irreversible and typically painless. Consequently, it may be unnoticed for many years unless the patient is being properly treated by an appropriate dental healthcare professional.

Treatment consists of careful disinfection of the gums and bone that support the teeth. If neglected, chronic gum disease can result in tooth mobility and eventually tooth loss. This has a negative effect on diet as foods with a lower glycaemic index typically require more chewing capacity. Early treatment of gum disease can prevent loss of teeth and the potential damage to general health that can occur when it progresses to the severe form of the disease.

Possible signs of gum disease

- bleeding when brushing or flossing (this can be masked in smokers)
- bruised, red and inflamed gums
- receding gums
- tooth sensitivity
- bad or metallic taste, even after brushing
- change in the position of the teeth and presence of gaps that were not there before
- loose teeth (only noticeable once the disease is very advanced)
- gingival abscesses.

Gum disease risk test

- 1 Do you think you might have gum disease? Yes/No
- 2 Have you ever had treatment for gum disease, such as scaling and root planing (sometimes called deep cleaning)? Yes/No
- 3 Have any of your teeth become loose on their own without injury? Yes/No
- 4 Have you ever been told by a dental professional that you have lost bone around your teeth? Yes/No
- 5 During the past three months, have you noticed a tooth that doesn't look right? Yes/No
- 6 Do you have diabetes? Yes/No
- 7 Are you over 50 years of age? Yes/No
- 8 Overall, how do you rate the health of your teeth and gums? Excellent or Good/ Fair or Poor
- 9 Aside from brushing your teeth with a toothbrush in the last seven days, how many times did you use dental floss or any other device to clean in between your teeth? 3 or more times/0 times
- 10 Aside from brushing your teeth with a toothbrush in the last seven days, how many times did you use mouthwash or any other dental rinse products used to treat dental problems? 3 or more times /0 times

If you answered a combination of 'yes' and '0' to three or more of these questions, it is likely that you have periodontal disease and you should seek professional dental care³.

Other oral complications

Some patients might also be taking certain medications such as calcium channel blockers or cyclosporine, which can result in excessive gum growth. Occasionally, oral antidiabetics, such as metformin, can also result in reactions of the lining of the mouth, such as lichen planus.

Glycaemic control is better when there is good oral health

The proper management of gum disease and oral health are important for the optimisation of glycaemic control⁴. Severe gum disease may result in poor glycaemic control and increased prevalence of diabetes complications in the eyes, nerves, kidneys, blood vessels and the heart⁵. The mechanisms that link diabetes and periodontitis involve

**X-ray shows gum
disease-related
bone loss**

different aspects of inflammation and immunity. The interactions between the two conditions have important implications for physicians, dental professionals and, above all, patients. For this reason, dental care should be incorporated into diabetes healthcare plans.

Treatment of gum disease in patients with diabetes has been shown to enhance glycaemic control, resulting in reductions in HbA1c of about 0.4 per cent⁶. Even this modest improvement in HbA1c can have a very significant clinical effect, as every 1 per cent reduction in HbA1c results in a reduced risk of other complications of diabetes – for example 21 per cent reduction in deaths, 14 per cent reduction in heart attack, and 37 per cent for small blood vessel complications⁷. Also, gum disease treatment has none of the side effects that may occur with medications taken for diabetes.

Studies have shown how non-diabetic patients with advanced gum disease can have an increase in the HbA1c values over time⁸. Since many cases of diabetes in the UK are undiagnosed, dental health professionals may have a useful role to play in opportunistic screening of dental patients with risk of diabetes.

In summary

- Diabetes increases the risk of severe gum disease (periodontitis) and evidence suggests that untreated severe gum disease can also increase HbA1c levels.
- Treatment of gum disease can help reduce HbA1c levels by 0.4 per cent on average.
- A thorough gum disease assessment is an important part of the overall diabetes care plan.

For more about Diabetes Dental Care, visit www.diabetesdentalcare.co.uk

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