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Case Report
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Cancer Progression by Gum Disease

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Abstract

The whole study provides a concise explanation of how gum disease contributes to cancer. If someone has gum disease, it could progress to cancer. If someone does not practise proper dental hygiene, such as brushing, cleaning, and washing their hands after eating, food can get stuck on their teeth, which will encourage the growth of bacteria and result in bacterial infection. The mouth is unpleasant tasting, the gums are retreating from the teeth, and there are other indications of gum disease.

Keywords: Gum disease; Cancer; Dental hygiene; Bacterial infection

Introduction

Gum Disease

Bacteria and food particles enter your mouth through breathing, talking, and eating and can adhere to your teeth. By regularly brushing and flossing your teeth, you can get rid of them before they can harm your health [1]. Plaque is a sticky, white substance that forms on your teeth when germs and food particles are not removed. If plaque is not removed through routine brushing or yearly cleanings at the dentist, it can harden into tartar, a material on teeth that is difficult to remove with frequent brushing. Plaque and tartar build-up on your teeth can irritate your gums and infect them.

Gum disease manifests as red, swollen, bleeding, or inflamed gums; gums that are receding from teeth; teeth that are sensitive to heat, cold, or when eating; chronic foul breath; a poor taste in your mouth; loose or separate teeth; and changes in your bite pattern [2, 3]. Gum disease is associated with a number of other illnesses, including a higher risk of heart attack and stroke, erectile dysfunction, and poor cognitive performance, according to research. Additionally, a 2008 study connected men with periodontal disease to an elevated risk for certain cancers.

The best method for preventing gum disease is to practise good oral hygiene practises. Tobacco users, for example, are more susceptible to periodontitis than others [4]. Some individuals have a genetic predisposition to gum disease. Additionally, some drugs, including oral contraceptives and steroids, increase the chance of developing periodontal disease.

Reason of gum disease

Poor dental hygiene

Between the tooth and the gum line, food particles can occasionally be seen. If the debris is not removed, it may lead to plaque accumulation and swelling of the gums surrounding the tooth. Gum disease and dental decay could develop as a result of this over time [5]. Along with swelling around a single tooth, other indications of poor dental hygiene may include: (1) red gums; (2) bad breath; (3) loose or broken teeth; (5) bleeding while brushing or flossing teeth; and (6) Flossing and brushing will typically eliminate this debris [6]. The gums or the tissue surrounding the tooth roots become inflamed when someone has periodontitis, often known as gum disease. When periodontitis is further advanced, the gums may be destroyed and the bone supporting the teeth may even start to be attacked.

In the United States, 47.2% of persons over 30 have periodontitis of some kind, according to the Centres for Disease Control and Prevention (CDC). The prevalence of this condition rises with age, reaching 70, 1% of Americans over 65 [7]. Researchers from the University of Helsinki and Helsinki University Hospital, both in Finland, in collaboration with associates from the Karolinska Instituted, in Sweden, have demonstrated that the bacteria that cause periodontitis may also be capable of causing some types of cancer, specifically pancreatic cancer [8]. As if dealing with the symptoms of periodontitis weren't difficult enough, Treponema denticola, the bacteria that causes periodontitis may also be to blame for the emergence of some cancer types, according to a study published in the British Journal of Cancer in November 2017 by Timo Sorsa at the University of Helsinki and colleagues [9].

Gum disease bacteria and cancer tumors

They discovered that an enzyme, known as Treponema denticola chymotrypsin-like proteinase, is shared by certain gastrointestinal malignancies, including pancreatic cancer (Td-CTLP) [10]. This enzyme is primarily found in the mouth and serves as the primary "booster" in the development of gum disease. It has been seen in some malignant tumours. The next step was to look into the molecular processes that would account for the connection between the periodontitis-causing bacterium and the growth of cancer tumours in other parts of the body. They discovered that Td-CTLP can trigger additional pro-MMP-8 and pro-MMP-9 enzymes, which cancer cells exploit as a means of invading previously healthy cells [11]. Furthermore, according to the authors' in vitro research, "Td-CTLP has immunomodulatory activity that can play a significant role in inducing and controlling carcinogenesis" [12]. As a result of its effect on enzyme inhibitors, which are substances that typically reduce enzyme activity when necessary, the Td-CTLP enzyme is also able to hinder the immune system's reaction. Td-CTLP enables enzymes that promote cancer to function poorly.

Mouth is a source of bacterial pathogens

In addition, Sorsa and another group of researchers carried

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out a separate study, this time focusing on the relationship between periodontitis prevalence and cancer-related death rates [13]. The latest study released in the International Journal of Cancer, found a strong correlation between the two. Data collected from 68,273 adults over a ten-year period for this investigation. They discovered was a significant correlation between a diagnosis of gum disease and a death from pancreatic cancer.

Conclusion

The researcher's draws a conclusion from the two studies that the periodontitis-related inflammation may make it simpler for dangerous bacteria to spread to other parts of the body, allowing their virulence factors like CTLP to work as a "booster" for cancer cells. Because oral disease prevention may also result in the avoidance of more significant health consequences like cancer, Sorsa and colleagues recommend people to pay closer attention to their mouth health. Sorsa continues, "In the long term, this is quite cost-effective for society."

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Conflict of Interest

The author has no conflict of interest.

References

1. Silink M (2008) Turning points in the fight against diabetes. Diabetes Voice 52: 2.
2. Thomas MC, Walker MK, Emberson JR, Thomson AG, Lawlor DA, et al. (2005) Prevalence of undiagnosed Type 2 diabetes and impaired fasting glucose in older British men and women. . Diabet Med 22: 789–793.
3. Fiske J (2004) Diabetes mellitus and oral care. Dent Update 31: 190–198.
4. Scully C, Epstein J, Wiesenfeld D (2005) The Oxford handbook of dental patient care. Oxford: Oxford University Press.
5. Basu A, Close CF, Jenkins D, Krentz AJ, Nattrass M, et al. (1993) Persisting mortality in diabetic ketoacidosis. Diabet Med 10: 282–284.
6. Pramming S, Thorsteinsson B, Bendtson I, Binder C (1991) Symptomatic hypoglycaemia in 411 type 1 diabetic patients. Diabet Med 8: 217–222.
7. Shah S, Mason C, Brierley J (2008) Underlying problems. Br Dent J 204: 656.
8. Lustman PJ, Griffith LS, Freedland KE, Kissel SS, Clouse RE (1998) Cognitive behaviour therapy for depression in Type 2 diabetes mellitus: a randomised controlled trial. Ann Intern Med 129: 613–621.
9. Ismail K, Winkley K, Rabe-Hesketh S (2004) A systematic review and meta-analysis of randomised controlled trials of psychological interventions to improve glycaemic control in patients with type 2 diabetes. Lancet 363: 1589–1597.
10. Simon GE, Katon WJ, Lin EHB, Rutter C, Manning WG, et al. (2007) Cost-effectiveness of systemic depression treatment among people with diabetes mellitus. Arch Gen Psychiatry 64: 65–72.
11. Firlati E (1997) The relationship between clinical periodontal status and insulin-dependent diabetes mellitus. Results after 5 years. J Periodontol 68: 136–140.
12. Southerland JH, Taylor GW, Moss K, Beck JD, Offenbacher S (2006) Commonality in chronic inflammatory diseases: periodontitis, diabetes and coronary artery disease. Periodontol 40: 130–143.
13. Cronin AJ, Claffey N, Stassen LF (2008) Who is at risk? Periodontal disease a risk analysis made accessible for the general dental practitioner. Br Dent J 205: 131.