



Pallor and Whitening of the Gums in Children

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Abstract

Whitening of the gums often indicates that there is a problem with the health of the mouth. Many conditions can lead to gingival whitening, from Aphthous ulcers to long-term inflammatory disease. This condition may be accompanied by some signs and symptoms. In some rare cases, whitening of the gums can be a sign of oral cancer; hence, there should be a concern of the parents to see a pediatric dentist for a correct diagnosis.

Keywords: Gingival whitening; Aphthous ulcer; inflammatory disease; oral cancer

Introduction

Whitening of the gums is often a sign of a problem with a person's oral health. This condition is one of the oral problems that have different causes, from underlying diseases to poor oral hygiene. Whitening of the gingiva may be accompanied by symptoms such as bleeding, swelling, pain, tenderness of the gingiva, bad breath, loose teeth, difficulty, or pain when swallowing, pain in the face or jaw, gingival recession, and dental abscess. Some causes of gingival whitening go away by themselves or easily can be treated, but more severe cases can be dangerous. Timely treatment can reduce the likelihood of further complications. Discovering the cause of this complication can help the dentist to prevent dangerous diseases, such as oral cancer. In this article, we will look into the reasons and diseases that cause gingival whitening in children and the possible treatment for that.

Causes

Gingival whitening is one of the oral health problems that have various causes. We look through the most common causes in the following.

Leukoplakia

Leukoplakia is a type of oral disease that causes parts of the gums to turn white. As a result of this disease, white spots would appear in the mouth that cannot be removed by brushing. Most cases of leukoplakia are harmless, but some can lead to cancer. The most common sites affected are the buccal mucosa, the labial mucosa, and the alveolar mucosa, however, any mucosal surfaces in the mouth may be involved [1,2]. These spots have a lot of adhesion on the oral mucosa, and their characteristic is that they do not

disappear with finger scraping at all [3]. Leukoplakia is the oral reaction to stimuli to the sensitive oral mucosa. This oral problem should be taken seriously, as it is a precancerous lesion of the mouth [4]. These spots may not be as painful as aphthous sores, but they can cause discomfort anyway. However, most experts recommend that parents should see a doctor as soon as possible if there are symptoms of leukoplakia, because, as we said, the presence of this complication can be related to cancer, especially, if leukoplakia appears with red lesions. The exact cause of leukoplakia is not yet known, but in adolescents and adults, it can be linked to tobacco use [4-6]. Smoking is the most common cause of this complication but chewing tobacco can also be the cause of leukoplakia [4-6] which is very common among teenagers and adults. Cigarette smoking may produce a diffuse leukoplakia of the buccal mucosa, lips, tongue, and rarely the floor of the mouth [5]. Prolonged use of alcohol [4,5], mechanical trauma (e.g., improper dental prostheses, irritation caused by broken teeth) [4,7], inflammatory diseases in the body, and underlying diseases such as cancer or AIDS are other causes of leukoplakia [4,8]. Leukoplakia is not dangerous in most cases, and these white spots do not cause permanent damage to the mouth and disappear on their own within two to three weeks when the source of the irritation has been removed. But if white spots are painful or look suspicious, the dentist will perform tests or even a biopsy for a more accurate diagnosis and check the issue for oral cancer and AIDS.

Anemia

This condition occurs when the body does not have enough red blood cells. Red blood cells are essential for transporting oxygen throughout the body. Anemia appears in many forms, depending on

the underlying cause. The common causes include iron or vitamin B12 deficiency, Crohn's disease, and celiac disease [9]. Symptoms include fatigue, dizziness, weakness, irregular heartbeat, shortness of breath, headache, and cold hands and feet [9]. People with anemia also develop paleness, including in the skin and gums [9]. This condition makes the gums look white. It should be noted that completely white gums can indicate a more serious problem.

Canker sores

Aphthous ulcers are lesions inside the mouth and gums that are painful; especially when talking, eating, or drinking fluids. Canker sores make parts of the gums appear white. Minor aphthous usually go away in up to 2 weeks without the use of medication [10,11], but the treatment of major type takes up to 6 weeks [12]. Major Aphthous are frequently found in patients infected with human immunodeficiency virus (HIV) [13,14] and parents should seek a dentist to evaluate it. Whitening of the gums can be caused by an aphthous ulcer. Unfortunately, gums cannot be pink all the time, and from time to time a child may get mouth sores that appear as circular, white and pale spots that may be red and inflamed around them. . These sores are usually round or oval and have a colorless center with a red border [15]. Mouth sores can occur anywhere inside the mouth, including on the gums. However, they do not change the color of the gums throughout the mouth. No one knows the exact cause of Canker sores, but these ulcers are usually associated with eating large amounts of acidic or sugary foods and stressful conditions. Also, making small cuts with a toothbrush or accidentally biting the lips, tongue, and cheeks can lead to mouth sores. The cause of aphthous ulcers is unclear, although many factors may be involved in the disease such as hormonal changes, stress, trauma, food hypersensitivity, nutritional deficiency, drugs, and tobacco [12].

Gingivitis

Gingivitis is common in children and adolescents. This complication affects a large number of populations and is very common among children and adolescents. More than 70% of children older than seven years of age are suffering from this disease [16]. Unfortunately, the primary cause of gingivitis in children is dental plaque, which is related to poor oral hygiene. Poor oral hygiene and accumulation of dental plaques lead the gums to become inflamed, red, and swollen. Inflammation of the gingiva can also cause bleeding when brushing or flossing, or even loosening of the teeth. Symptoms of gingivitis often include irritation, redness, and swelling of the gums in the cervical region of the teeth. Over time, this condition can cause the gums to whiten and recede. If gingivitis is caused by a viral infection (Gingivostomatitis), the entire gingiva becomes red, slightly and swollen, and it may bleed spontaneously. This infection is common among children aged 1-3 years. The condition could last 2-4 days. Small white vesicles appear which are very painful and may last 12-15 days. Interestingly, the gingival tissue would heal without scarring [17].

Oral Lichen Planus

This disease is most frequently seen in the middle-aged and elderly [18]. There are limited studies indicated the occurrences

of oral lichen planus in children [19,20]. Childhood lichen planus has been documented as a complication of Hepatitis B vaccinations (HBV) [21,22]. Recent studies have noticed the relationship between OLP and hepatitis C virus in some populations [23,24]. Oral lichen planus has different clinical appearances such as papular, plaque-like, reticular, erythematous, ulcerative, and bullous features [25,26]. White components might be seen as papules, plaques, and reticular areas [27]. Small white papules and white lines are usually combined to form the reticular network, an annular or even circular form. Sometimes it appears as a well-distinguished white plaque with peripheral striae on the oral mucosa. The disease causes white, meshed spots on the gums, tongue, and other tissues inside the mouth. It is a chronic autoimmune disease that is associated with a variety of symptoms including pain, bleeding, and gingivitis. People with lichen planus should see a dentist regularly because they are at increased risk for malnutrition, oral infections, and oral cancer. Although the prevalence of lichen planus in children is rare, the differential diagnosis must be thoroughly considered in children presenting with white lesions of the gingiva because oral mucosal involvement is very important. Furthermore, there are a few studies that have revealed the occurrence of a lichenoid reaction when the orthodontic retainer is used [28,29].

Oral Thrush

This condition is also known as candidiasis. It is a fungal infection that is very common in the first year of life that causes prominent white-cream sores to appear in the mouth [30-34]. These sores develop inside the cheeks, on the tongue, or the gingiva [35]. Infants, the elderly, and people with diabetes are more likely to develop this condition [30]. If a child uses inhaled corticosteroids, or antibiotics he's more likely to develop oral thrush due to disturbance of the balance of microbes in the mouth. Children with weak immune systems are more likely to get oral thrush infections [36,37].

Tooth Extraction

Damage caused by tooth extraction causes the gums around the teeth to become white and pale, and parents should not worry about it because the gums usually return to their natural color within a few days.

Teeth whitening (Bleaching)

Specialized teeth whitening treatments can also make the gums appear brighter or whiter than usual. They will return to their natural color within a few hours, although in some cases, gingival irritation begins within a day of the treatment and can also last several days.

Oral cancer

Oral cancer most commonly occurs in middle-aged and older individuals, although is significantly also being documented in younger and teenagers in recent years due to the use of cigarettes, chewing tobacco, and alcohol [38-40]. Some risk factors such as tobacco chewing, smoking (including marijuana), and alcohol play an important role in the development of potentially malignant oral conditions [41-45]. Whitening of the gums can be a sign of oral

cancer. Up to 70% of oral cancers are preceded by premalignant oral lesions, such as persistent red or white patches in the mouth [46]. The disease may spread rapidly, and patients need to be aware of its signs and symptoms. Slow-healing oral ulcers, oral fibroma, oral bleeding, thickening of the skin inside the mouth, loose teeth or tooth loss, toothache or jaw pain, difficulty in chewing and swallowing, and sore throat are other symptoms of this disease [47-49].

Important Recommendations

Parents should take gum whitening seriously if the whitening of gingiva has a medical reason and have certain complications; the dentist would recommend the treatment process, but in general, parents should follow some tips to prevent oral problems.

- a) Brush twice a day.
- b) Floss teeth once a day.
- c) Use non-alcoholic mouthwashes once a day.
- d) Brush tongue to remove bacteria, and food particles.
- e) Use OTC painkillers if needed.
- f) Gargle with saline solution to reduce pain and inflammation of the gums.
- g) Use a soft or medium toothbrush.
- h) Eat a balanced diet.
- i) Eat less sugar and sweets.
- j) Do not use tobacco products.
- k) See the dentist twice a year for a checkup.
- l) Control the chronic illnesses according to the medications and treatment regimen.

When Should Parents Seek A Dentist For Children With A Whiten Gingiva?

Some causes of gingival whitening go away easily without taking any medication or treatments, but more severe cases can be dangerous. Timely treatment can reduce the likelihood of further complications. If pale or whitening gums are accompanied by symptoms, parents should seek a dentist right away: bleeding gums, swelling and soreness or tenderness of the gums, retraction or regression of the gums around the teeth, very bad breath, fever, loosening of teeth, difficulty or pain when swallowing, gingival abscess, metal-like taste in the mouth, pain in the face or jaw, lesions, redness, fatigue, dizziness or weakness, headache, cold hands, and feet.

Suggested Treatments

Whitening of the gums is treated based on their underlying cause.

Anemia

Changing the daily food diet, taking supplements and multivitamins, and controlling chronic diseases can help treat anemia [50,51].

Gingivitis

It can be easily treated by improving oral hygiene habits. Prevention and improvement of gingivitis include brushing and flossing twice a day, and regular checkups. For worse cases, tooth scaling and removing the calculus and plaques is the easiest way to treat this disease. Sometimes they may need to use a laser to treat the problem, or they may need laser cleaning.

Aphthous ulcers

Minor Aphthous usually heal within 2 weeks without any treatment [10,11], although Major Aphthous can take up to 6 weeks to heal [12] and should be evaluated by the dentist. Treatments for long-lasting aphthous include:

- a. Mouthwashes (Tetracycline and Chlorhexidine) [52-55]
- b. Medication to relieve pain (Benzydamine Hydrochloride, Diclofenac) [55]
- c. Rinse the mouth with water and salt
- d. Oral ointments and gels (anesthetics, antihistamines, antimicrobials, and anti-inflammatory. Amlexanox, Fluocinonide ointment, Orabase, topical lidocaine 2% spray or gel, Topical triamcinolone acetonide, Clobetasol [53-57]
- e. Oral steroid medications such as Prednisolone [53,56,57]

In severe cases, the ulcer will be treated by Laser [58].

Leukoplakia

White spots caused by leukoplakia inside the mouth and on the gums can be removed by freezing, surgery, or laser. Surgical removal of the lesion is the first choice of treatment for many clinicians. Surgical treatment includes conventional surgery, electrocoagulation, cryosurgery, and laser surgery (excision or evaporation). This can be accomplished by traditional surgical excision with a scalpel, with lasers, or with electrocautery or cryotherapy [59,60]. Many different topical and systemic medications have been studied, including anti-inflammatory, Antimycotics, Carotenoids (precursors to vitamin A), Retinoids (drugs similar to vitamin A), and Cytotoxics. Vitamins C and E have also been studied as a therapy for leukoplakia. The topical administration of Bleomycin usually reduces lesion size and has few toxic side effects [61,62]. People suffering from this disease should avoid smoking and tobacco use. The dentist may also prescribe antiviral drugs for people with weakened immune systems. These medications can suppress the Epstein-Barr virus, the cause of hairy leukoplakia. With oral therapy with Acyclovir, it is recommended high doses to achieve therapeutic levels. Valacyclovir and Famciclovir are newer antiviral drugs with higher

oral bioavailability than acyclovir [63,64]. Ficarra et al. performed a study using acyclovir cream for topical treatment for the treatment of leukoplakia [65].

Oral Lichen Planus

There is no definitive cure for oral lichen planus, but one can control it with the following treatments: taking corticosteroids to reduce inflammation, anesthetic gels to relieve pain, drugs that support the immune system. Elimination of causing factors and improving oral hygiene is taking into consideration as the initial management for OLP, and these measures are stated to be beneficial [66]. Treatment usually involves topical corticosteroids (such as Betamethasone, Clobetasol, Dexamethasone, and Triamcinolone) and analgesics, or for severe conditions, systemic corticosteroids may be prescribed. Calcineurin inhibitors (such as Pimecrolimus, Tacrolimus, or Cyclosporine) are sometimes applied [66]. While topical steroids are widely accepted as the first choice of treatment for mucosal lichen planus, there is a weak document to support that [67].

Oral Thrush

This fungal disease is usually treated with antifungal drugs. The dentist may prescribe medications in the form of oral tablets, lozenges, syrups, or mouthwashes. Nystatin, sold under the brand name Mycostatin, is an antifungal medication that is used to treat Candida infections of the oral thrush. It may also be used to prevent candidiasis in those who are at high risk [68,69]. Miconazole, Gentian violet, or Amphotericin B is the other drug choices to treat oral candidiasis. Oral candidiasis can be reduced by improving oral hygiene measures, such as regular tooth brushing and the use of anti-microbial mouthwashes [70]. Although smoking is associated with many forms of oral candidiasis, quitting smoking may be advantageous.

Oral cancer

Over 40% of cases of oral cancer are undetectable until they progress to other areas, such as the lymph nodes [71,72], so it is important to see a dentist as soon as possible. Treatments include chemotherapy, radiation therapy, and surgical removal of the affected and damaged areas [73].

Conclusion

Gingival conditions are an important indicator of general health. Whitening of the gums often indicates that there is a problem with oral health. Many conditions can lead to gingival whitening, from small lesions to chronic inflammatory disease. In some rare cases, whitening of the gums can be a sign of oral cancer, so proper and timely diagnosis is vital. Signs and symptoms that can occur along with the whitening of the gums can vary depending on the underlying causes of the discoloration of the gums. Sometimes, a person may have no symptoms at all, however, this condition may be associated with some signs and symptoms which careful examination of those can help the dentist identify the root causes of whitening of the gingiva.

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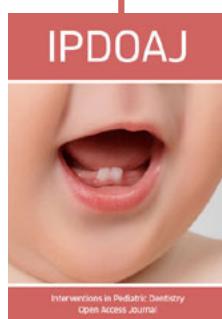
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