Adverse Effects of Using 0.12% Chlorhexidine Digluconate: A Literature Review

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Introduction

In times of pandemic, health and hygiene care must be doubled. A healthy body helps the immune system to prevent infections. Therefore, the concern of health authorities regarding the new coronavirus (Sars-Cov-2) is justified. In this sense, attention to oral hygiene is of fundamental importance since the mouth is the gateway for numerous infectious agents. The use of chemical adjuvants is recommended, as it reduces the microbial load to which the organism is subjected. However, the use of such substances can cause some undesired effects, such as: alteration in the coloration of dental elements, restorations, prostheses and tongue, formation of supragingival calculus, loss of taste, burns in tissue soft, pain, dry mouth, and unpleasant aftertaste in the mouth. Mucosal ulcerations, reversible swelling of the lips and parotid glands, scaly lesions, urticaria, dyspnea and anaphylactic shock can rarely occur [4-6].

Literature Review

Chlorhexidine has a substantivity in the oral cavity for approximately 12 hours, inhibiting the adhesion and colonization of microorganisms to dental elements. Thus, it can be emphasized that it exerts bactericidal action when used in high concentrations and bacteriostatic in low doses, paralyzing and killing bacteria [1-3]. However, even with numerous beneficial effects, some adverse effects have been observed in the literature regarding its use, such as: alteration in the coloration of dental elements, restorations, prostheses and tongue, formation of supragingival calculus, loss of taste, burns in tissue soft, pain, dry mouth, and unpleasant aftertaste in the mouth. Mucosal ulcerations, reversible swelling of the lips and parotid glands, scaly lesions, urticaria, dyspnea and anaphylactic shock can rarely occur [4-6].

As a chemical control, 0.12% chlorhexidine digluconate is the most widespread in the lineage of mouthwashes. In addition to the effective action of chlorhexidine in dental biofilm, its use is also indicated for oral mucositis, as it acts in reducing the severity of injuries, providing more comfort and avoiding secondary infections. However, the use of chlorhexidine for prolonged periods is contraindicated, as it induces side effects such as discoloration of the teeth, peeling of the mucosa, altered taste and unpleasant taste. In our literature review work, we concluded that 0.12% chlorhexidine digluconate is an excellent antimicrobial agent, but its use should be done with discretion, as it has significant adverse effects.
ultrasound (Figure 2), these authors also address hypotheses about the factors that lead to staining, such as the ability of chlorhexidine to denature proteins, form ferric and stony sulfite, or even with the association of colored foods, however for Bohner [7] the staining is caused by diet dyes, which react with the mouthwash, forming colored elements. Berton et al. [5] describe the clinical management of unilateral parotid edema caused by the use of chlorhexidine in a 66-year-old patient who used the substance continuously.

As emphasized by Franco et al. [11], chlorhexidine acts in two ways, when used in low concentrations, it has bacteriostatic action, paralyzing the bacterium, through the alteration of the osmotic balance and the loss of intracellular substances. Already in high concentrations it has bactericidal action, which ends up destroying the cell. Chlorhexidine is also effective in preventing and treating mucositis in patients undergoing radiotherapy and chemotherapy [8]. These authors emphasize that the MASCC (Multinational Association of Supportive Care in Cancer) and ISOO (International Society of Oral Oncology) do not recommend its use in cancer patients. Ribeiro Junior et al. [12] reported that even though chlorhexidine is used on a large scale in the control of mucositis, it generates oral burning and dysgelsia in addition to reducing mucin levels, affecting the salivary glands by the effects of radiation, leading to xerostomia. Thus, we can conclude that 0.12% chlorhexidine digluconate is an excellent antimicrobial agent, however its use should be done with discretion, as it has significant adverse effects.

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