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The Use of Hyaluronic Acid to Correct Orofacial Disharmonies: A New Dental Approach



Juliana Campos Pinheiro^{*1}, Cristianne Kalinne Santos Medeiros², Jabes Gennedyr da Cruz Lima², Joaquim Felipe Junior³, Marvin Felipe Oliveira⁴, Yunes Araújo Silva³, Lucas Coimbra de Assis⁵, Dennys Ramon de Melo Fernandes Almeida⁶

¹Universidade Tiradentes, Brazil

²Universidade Federal do Rio Grande do Norte, Brazil

³Universidade Potiguar, Brazil

⁴Faculdade IDE, Brazil

⁵Universidade Tiradentes, Brazil

⁶Universidade Federal do Ceará, Brazil

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ABSTRACT

Hyaluronic acid is one of the main biomaterials used for cosmetic procedures on the face, as it exhibits a small number of side effects. In this context, this study aims to review the literature on the applicability of hyaluronic acid in dentistry. The analysis of articles related to the research theme was carried out, thus seeking to strengthen the construction of the theoretical framework. The inclusion criteria used were articles and books published in any language, which fit the research theme and which presented a methodology used in detail. Duplicate works or those that did not fit the methodology used were excluded. The ideal facial proportions have been investigated over the years, where more and more patients are looking for methods to improve their esthetics according to their desired phenotype, mainly in the scope of orofacial esthetics. With technological advances, it is possible for dentists not only to prevent or intervene in oral diseases but also to act on certain facial aesthetic factors that reflect on mental and social health.

INTRODUCTION

Studies that have already been carried out show that hyaluronic acid has great potential to become one of the main materials used for cosmetic procedures on the face, as it exhibits a very small number of side effects, not presenting painful symptoms and an inflammatory reaction. In addition, hyaluronic acid is present in the basal layers of the human epithelium, which provides great support and hydration for the skin (Moraes, 2017).

Hyaluronic acid is a member of the glycosaminoglycan family, being one of the main components of the extracellular matrix of almost all tissues. Most cells are capable of producing it and its main function is to participate in tissue healing and repair (Rohrich, 2007). Among the properties of this biomaterial, its biocompatibility, hydrophilicity, and non-immunogenic nature stand out, in addition to its antiseptic, anti-inflammatory, and bacteriostatic effects. Thus, its application can be made topically in wound healing and the treatment of gingivitis, periodontitis, as well as in the injectable form to restore the volume of the interdental papillae (Becker, 2010).

Recent studies reported that when injecting superficial subcutaneous hyaluronic acid, excellent results were obtained in restoring volume, support, and improvement of facial flaccidity with a small amount of the product (2ml of hyaluronic acid 23mg/ml) and high safety, demonstrating a high rate of satisfaction of treated patients, minimal side effects and positive evaluation of the evaluated physicians (Rohrich, 2007; Becker, 2010; Roberto, 2019).

The literature demonstrates that several procedures in the area of orofacial harmonization use hyaluronic acid as the main material of choice, showing positive aesthetic results in filling in disharmonies. Facial fillers, as well as any aesthetic surgical procedure, entail certain risks, which will directly depend on the qualification of the qualified professional and the use of materials with orofacial qualities (Rohrich, 2007; Roberto, 2019). In this context, this study aims to conduct a literature review on the applicability of hyaluronic acid in dentistry.

MATERIAL AND METHODS

The analysis of articles related to the research theme was carried out, thus seeking to strengthen the construction of the theoretical framework. The following descriptors were used:

“Hyaluronic Acid”; ‘Orofacial Harmonization” and “Dentistry”, as well as the Boolean operator and. The inclusion criteria used were articles and books published in any language, which fit the research theme and which presented a methodology used in detail. Duplicate works or those that did not fit the methodology used were excluded.

LITERATURE REVIEW

Hyaluronic acid is one of the best fillers currently used, it is a substance that is present in the human body, however, its quantity is reduced over the years and its application tends to be carried out in a predetermined time, as has an expiration date. Despite being a relatively new technique in dentistry, the identification of complications is rare (Papazian, 2020).

Because they understand and have greater knowledge about the structures of the head and neck, dentists can treat certain conditions of the face and oral cavity conservatively with their patients and ensuring safety not only with hyaluronic acid but with other types of filling procedures on the face, as long as they have specific knowledge and training (Barbosa, 2017).

Hypersensitivity to injectable hyaluronic acid is considered rare, occurring in approximately 1 of every 5000 cases (Pinheiro, 2005). Therefore, pre-treatment allergy testing is not necessary. Infection is also uncommon and can usually be treated with antibiotics or antivirals, depending on clinical features (Jones, 2011). Knowledge of the type of biomaterial used is essential at the time of its application for the planned procedure to be successful (Celória, 2019).

To avoid complications and adequately treat patients, it is extremely important that the professional fully understand the variety and types of specific problems that may occur (Naini, 2018). The patient must understand the results that can be achieved, the approximate duration of treatment, and also the likely complications. At this point, it is crucial to establish good communication between the professional and the patient. In addition, caution should be exercised in treating patients who exhibit signs of any underlying mental disorder or dysmorphophobic tendency (Urdiales, 2017).

Among its main indications, the filling of superficial or deep wrinkles stand out, as well as correction of congenital or acquired soft tissue depression. Increasingly, this biomaterial has

been used to promote facial contouring, correction of wrinkles in the lower eyelids, as well as correction of facial asymmetry and congenital bone and soft tissue defects (Goldberg, 2006).

Another indication is lip enlargement and soft palate enlargement in the deformity resulting from cleft lip and palate, unilateral paralysis of the vocal cords, correction of an ophthalmic orbital syndrome, and enophthalmos. Hyaluronic acid should not be used in individuals with known hypersensitivity, pregnant or nursing women, should not be injected into areas where permanent implants have been placed, nor should it be applied in or near areas where there are active disease, skin, inflammation, or wounds (Moraes, 2017).

CONCLUSION

The ideal facial proportions have been investigated over the years, where more and more patients are looking for methods to improve their esthetics according to their desired phenotype, mainly in the scope of orofacial esthetics. With technological advances, it is possible for dentists not only to prevent or intervene in oral diseases but also to act on certain facial aesthetic factors that reflect on mental and social health.

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