

Lip filling associated with subcision in a patient with cleft lip and palate

Preenchimento labial associado a subcisão em paciente com fissura labiopalatina

Relleno labial asociado a subcisión en paciente con labio y paladar hendido

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Abstract

To describe a case of lip filling associated with subcision of the ligaments of the orbicularis oris muscle and the superficial musculoaponeurotic system (SMAS) of a patient with cleft lip and palate. Case details: A 42-year-old woman was seen at a dental clinic specializing in orofacial harmonization (Instituto Erlacher) with a complaint of lip asymmetry. She reported being born with cleft lip and palate and being submitted to surgical intervention by an oral and maxillofacial surgeon. After clinical evaluation and planning, a subcision technique was performed prior to lip filling with hyaluronic acid, with the objective of maintaining good tissue integration of the product, avoiding its migration to other regions, and reducing local resistance due to scar fibrosis. Final considerations: This study revealed that even though it is not a definitive procedure, which requires periodic maintenance, the minimally invasive treatment with the injection of hyaluronic acid through the subcision technique is capable of immediately correcting the lip asymmetry of patients with cleft lip and palate. looking for the procedure.

Keywords: Hyaluronic acid; Dentistry; Cleft lip and palate; Lip filling.

Resumo

Descrever um caso de preenchimento labial associado à subcisão dos ligamentos do músculo orbicular da boca e do sistema músculo aponeurótico superficial (SMAS) de uma paciente com fissura labiopalatina. Detalhamentos de caso: Uma mulher de 42 anos foi atendida em clínica odontológica especializada em harmonização orofacial (Instituto Erlacher) com queixa de assimetria labial. Ela relatou nascer com fissura labiopalatina sendo submetida à intervenção cirúrgica por cirurgião Bucomaxilofacial. Após avaliação clínica e planejamento, foi realizada técnica de subcisão previamente ao preenchimento labial com ácido hialurônico, com o objetivo de manter boa integração tecidual do produto, evitar migração do mesmo para outras regiões e diminuir a resistência local devido a fibrose cicatricial. Considerações finais: Este estudo revelou que mesmo não sendo um procedimento definitivo, o qual requer manutenção periódica, o tratamento minimamente invasivo com a injeção de ácido hialurônico por meio da técnica de subcisão é capaz de corrigir de imediato a assimetria labial de pacientes com fissura labiopalatina que procuram pelo procedimento.

Palavras-chave: Ácido hialurônico; Odontologia; Fissura labiopalatina; Preenchimento labial.

Resumen

Describir un caso de obturación de labios asociado a subcisión de los ligamentos del músculo orbicular de los labios y del sistema musculoaponeurótico superficial (SMAS) de un paciente con labio y paladar hendido. Detalles del caso: Una mujer de 42 años fue atendida en una clínica dental especializada en armonización orofacial (Instituto Erlacher) con queja de asimetría labial. Refirió haber nacido con fisura labiopalatina y haber sido sometida a intervención quirúrgica por un cirujano oral y maxilofacial. Tras evaluación clínica y planificación, se realizó una técnica de subcisión previa al relleno labial con ácido hialurónico, con el objetivo de mantener una buena integración tisular del producto, evitando su migración a otras regiones y reduciendo la resistencia local por fibrosis cicatricial. Consideraciones finales: Este estudio reveló que si bien no es un procedimiento definitivo, que requiere mantenimiento periódico, el tratamiento mínimamente invasivo con inyección de ácido hialurónico a través de la técnica de subcisión es capaz de corregir de manera inmediata la asimetría labial de los pacientes con labio leporino y paladar hendido buscando el procedimiento.

Palabras clave: Ácido hialurônico; Odontología; Labio y paladar hendido; Relleno labial.

1. Introduction

Cleft lip and palate are a very common craniofacial malformation that appears during the embryonic period causing failure in the union of the facial processes, consequently, a cleft is formed that can extend from the lip to the soft palate. The effects of this event range from changes in facial morphology, dentition, speech, as well as aesthetic implications (Souza-Freitas et al., 2004; Pereira et al., 2018; Costa et al., 2021). Its incidence is one in 750 live births (Lombardo-Aburto, 2017).

Cleft lip and palate are classified in Brazil by both morphological and embryonic aspects. Currently, the Spina classification is accepted, which includes four groups: pre-incisive foramen clefts or, simply, cleft lips (FL), post-foramen incisive clefts or cleft palates (FP), transforamen incisive clefts or cleft lip and palate (LPF) and rare facial fissures (Alarcón & Sá, 2017).

The emergence of absorbable filler materials boosted facial harmonization procedures in the dental field to the point of listing intrinsic issues the versatility of use of dermal fillers to improve, correct and prevent damage to facial tissues (Papazian et al., 2018). Hyaluronic acid is currently the gold standard filler used in aesthetic-facial and cosmetic treatments. The mechanism by which it acts is through its connection with water, being, therefore, a material that provides the skin with additional volumization (Chong et al., 2004), in addition to correcting scars from reconstructive surgeries, aiming at aesthetic harmony (Franchi et al., 2018; Hussain et al., 2017).

In view of the above, the objective of this construct was to describe a case of lip filling associated with subcision of the ligaments of the orbicularis oris muscle and the superficial musculoaponeurotic system (SMAS) of a patient with cleft lip and palate, aiming at aesthetic and facial improvement.

2. Methodology

2.1 Case Report

The clinical information and images exposed in this case report have the patient's consent and authorization proven by signing a Free and Informed Consent Term (TCLE). In addition, this study is not active research, but an unintentional study arising from clinical practice, respecting the ethical principles of the Declaration of Helsinki.

A 42-year-old woman was seen at a dental clinic specializing in orofacial harmonization (Instituto Erlacher) with a complaint of lip asymmetry. She reported being born with cleft lip and palate and being submitted to surgical intervention by an oral and maxillofacial surgeon. At the time, she reported receiving specialized follow-up from a dentist and speech therapist.

During anamnesis, the patient did not report difficulties in speaking or eating. She mentioned a previous aesthetic procedure with botulinum toxin and hyaluronic acid-based dermal fillers. She denies use of drug therapy, medical treatment, drug allergy, hypertension, heart problems, clotting and/or bleeding disorders, smoking, diabetes, pregnancy, and infectious disease. During the anamnesis, she mentioned motivation in the consultation to fill the lip to improve its appearance and shape. Her expectations were to improve her appearance through a great result, although she didn't expect perfection.

The patient was not interested in further surgical interventions, and this was one of her motivations for the search for other therapeutic options to treat lip asymmetry and upper lip eversion. On physical examination, it was observed that the patient had a slight area of retraction in the mucosa of the left upper lip, located approximately 1 cm to the left of the midline. In addition, the presence of two bilateral scars was also noted, both linear, extending from the vermilion to the upper cutaneous philtrum to the wings of the nose.

After antisepsis with 70% alcohol and intraoral infraorbital block with 0.5 mL 2% lidocaine + 1:100,000 epinephrine injected above each canine at the level of the mucobuccal crease, the patient was treated with an injection of 0.5 mL of

hyaluronic acid (HA) (STYLAGE® M, VIVACY®).

Markings were performed on the upper lip, identifying them as points: A, B, C (Figure 1). Then, a 22-G needle was superficially inserted under point A, to provide access for the entry of the 25-G cannula (50 mm in length), this being inserted superficially into the fat compartment along the vermilion portion of the upper lip up to point C. The tissue of the lip was pinched with the fingers and gentle forward and backward movements were performed to disinsert the ligaments (only in the upper lip), as illustrated in Figure 2. After noticing that the cannula moved easily without any resistance, the HA injection was deposited in the region of the subcision, in the subcutaneous (Pensler et al., 1985).

Figure 1. Marking of starting points for lip fill associated with subcision.



Note: where A: cannula entry under 3 mm from the labial commissure; B: half the length of the lip; C: labial midline. Yellow arrows: area of subcision with the cannula that extends from half the length of the lip (point B) to the labial midline (point C), in “back and forth” movements. Source: Authors (2022).

Figure 2. Subcision to detach the SMAS ligaments.



Source: Authors (2022).

3. Results

The improvement of the lip architecture was noticed immediately, without bruising and with a slight presence of edema, an expected effect due to the force applied at the time of subcision, mainly under the scar tissue formed during the surgical interventions to correct the cleft lip and palate. (Figure 3).

Figure 3. Comparison of before and immediate after lip filler technique with hyaluronic acid.



Source: Authors (2022).

She returned to the clinic fifteen days after treatment for evaluation, and then two and a half months for follow-up. (Figures 4). During the patient's return, seeking to make the patient's face more harmonious, it was proposed to perform chin projection, after she agreed, the chin region was filled with 0.5 mL of HA (STYLAGE® XXL, VIVACY®) in a single session.

Figure 4. Evaluation and follow-up of lip filler fifteen days and two and a half months after the procedure.



Source: Authors (2022).

4. Discussion

Cleft lip patients are usually submitted to multiple reconstructive surgeries requiring long periods of hospitalization. In addition, this type of intervention causes post-surgical swelling and requires recovery periods. However, these patients are currently looking for painless and comfortable treatment to correct the esthetic defect (Stolic et al., 2012). Therefore, as well as this case report, other studies have revealed that the use of hyaluronic acid to fill cleft lips is highly safe and capable of providing satisfactory results in facial aesthetics (Molena et al., 2021; Singh & Chauhan, 2019), which includes flexibility and elasticity and improved lip function (Franchi, et al., 2018).

Since the creation of Resolution n° 198/2019 of the Brazilian Federal Council of Dentistry, orofacial harmonization was regulated as a specialty of dentistry, and this event provided professionals in the aesthetic dentistry class with an advance in procedures using facial fillers, giving them autonomy and legal support for the use of techniques to perform aesthetic corrections. functional, e.g., of patients with cleft lip and palate, according to the intervention described and presented in this case report. In addition, several studies emphasize that individuals with cleft lip and palate present lip irregularities even after rehabilitation with a multidisciplinary team with several corrective surgeries, and this denotes dissatisfaction with aesthetics and, therefore, problems with self-esteem and social insertion (Molena, et al., 2021; Martelli, et al., 2012). In this sense, the recovery of these patients' self-esteem is essential to provide a better quality of life and social well-being. For this reason, orofacial harmonization has achieved a high level of recognition within the aesthetic dentistry practice.

After injection of facial soft tissue filler, mild swelling is common, which normally subsides within the first 24 hours. In general, the procedure does not prevent the patient from returning to their normal day-to-day activities. However, in case of postoperative discomfort, the dentist may prescribe analgesics or anti-inflammatory drugs for pain control, if deemed necessary (Amado et al., 2019; Papazian et al., 2018; Pretel & Cação, 2016). In this case, the patient did not report pain or any other discomfort and, therefore, no medication was prescribed.

Subcision is a simple and safe procedure indicated for the treatment of atrophic and depressed scars because this type of approach stimulates neocollagenesis for collagen synthesis (Lee et al., 2014; Orentreich & Orentreich, 1995), which is one of the most desired requirements in facial aesthetic treatments. The new lip filler approach described here revealed improvement in lip scarring, a result that may improve even further when subcision is performed in other lip filler sessions with hyaluronic acid. In addition, there is formation of connective tissue in the healing process of the subcision (Orentreich & Orentreich, 1995). Thus, these findings positively corroborate the success of the treatment, the progressive improvement of the lip architecture and a result close to the patient's expectations.

The volume and concentration of hyaluronic acid depend on the region that will be filled, as well as the reapplication time is dependent on the physiological actions of each patient (Amado et al., 2019; Pretel & Cação 2016). Therefore, planning must be individualized in the clinical practice of facial aesthetic procedures (Barbosa et al., 2021). From this perspective, it is important to highlight that in a report on the use of injectable hyaluronic acid to correct low-volume lip asymmetry after surgical repair of a cleft lip, the upper lip was treated with 0.5 mL of hyaluronic acid, obtaining symmetrical correction and aesthetically pleasing volume increase, where the result was maintained for 4 months (Schweiger et al., 2008). In this approach, the patient's upper lip was also treated with 0.5 mL of the filler and continues to be followed up to determine the duration of the filler material.

Other studies assume that hyaluronic acid injection significantly improves lip asymmetry, lip, and perioral profile of patients with congenital, acquired, and post-surgical lip asymmetries (Kandhari et al., 2017). The technique of lip restructuring with absorbable dermal fillers, as used in this study, proved to be a safe method and an easy exception for experienced injectors, in addition to being a therapeutic alternative to surgical procedures for individuals with cleft lip scars and other

deformities that seek improvement of facial aesthetics (Singh & Chauhan, 2019; Kandhari et al., 2017; Stolic et al., 2015; Schweiger et al., 2008).

5. Conclusion

Although this filling method has revealed an improvement in the lip esthetics of a patient with a cleft lip and palate scar, other filling interventions associated with subcision are necessary because there is a lot of local resistance perceived during the displacement of the cannula, where this measure can provide better accommodation of the filling material progressively. Thus, this approach serves as a model for dental professionals and other injectors in facial harmonization to serve this patient population. In addition, further clinical studies should be performed in order to determine how satisfactory the lip filling technique is for this group of patients.

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