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Case Report

Orthodontics, Visagism, Harmonization and Attractiveness: The Tetrad of the New Dentistry

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Abstract

Currently, the search for orthodontics presents scope not only for functional improvement and increment (ideal occlusion) but also driven by growing interest in facial aesthetics. Aesthetics, in turn, is very peculiar to each individual. Using concepts of geometric Visagism, in which we particularize dental beauty according to the original patient biotype, harmonizing their physical and dentogingival characteristics, we promote attractiveness and foster the perception of facial aesthetics even during the orthodontic treatment phase. The purpose of this study is to present the communion of these concepts - Visagism, harmonization and attractiveness - in an orthodontic patient who presented with a gummy smile.

Keywords: *Orthodontics; Perception; Dental Esthetic; Botulinum Toxins Type A*

Introduction

Aesthetics is conceptualized as the science that deals with beauty in general and the feeling it awakens in us. This feeling can be defined by the perception, of the human eye in relation to the object. Attractiveness is understood as the point that has the capacity to attract, awakening interest from the visual impact. With specific reference to facial beauty, attractiveness is quickly determined in the first 2 seconds after visualization of the face [1]. In addition, aesthetics is influenced and affected by cultural, educational, social and environmental factors [1,2].

Nowadays, facial attractiveness is considered one of the fundamental factors for social coexistence, physical, psychic and emotional well-being and success. The desire to present a beautiful, attractive and healthy smile increases the search of the patients for Dentistry in its various specialties. Considering that smiling is an integral part of the face, it is important that the dental surgeon, particularly in the specialty of Orthodontics, which deals with physiological and aesthetic dysfunctions in dental positioning, know the preferences and wishes of these patients. From this perspective, smile aesthetics has become the main focus of patients seeking treatment through Orthodontics [2].

According to the Greek concept, beauty is presented through harmony and proportion between parts, in addition to measurement, symmetry and virtue. These concepts - which also refer to the golden proportion - have been applied since ancient Greece in various sciences and, later, in the Renaissance [1]. These definitions seem so current when applied, for example, in Orthodontics, where symmetry reflects not only aesthetics but also function.

Within the concept of what is beautiful and standards of beauty, we insert the harmonization, balance and customization of personal image, the Visagism. The word visagisme appeared in France, being originated by the term visage, which means face. The concept of Visagism is the art of creating a personal image customi-

zed, which expresses the personality and lifestyle, with harmony and aesthetics. This art is made up of two phases: in the first, the professional, through a consultancy, helps the patient to decide what he/she wants to express through his/her image; and in the second, uses techniques of the professionals, sensitivity and mastery of the elements that make up the visual language to transform the intention into an image with harmony and aesthetics. In 2003, the plastic artist Philip Hallawell, born in São Paulo, Brazil, whose formation included England and the USA, established what would be the creation, or adequacy of the personal image according to authentic people. In this perspective, a new therapeutic possibility applying the visual intervention totally aligned with the contemporary trends of human behavior, which in this century, seeks self-knowledge and individual expression. Personalization is the watchword in an increasingly globalized market. Visagism was designed as a tool to unite the patient's will and need through the design of a smile, expressing visually through appropriate shapes and lines [1].

In the current society, beauty and facial attractiveness are linked to social perception, where individuals with more attractive faces are perceived as having athletic, social and leadership skills. The eyes and the mouth are the most important factors in the hierarchy of characteristics to determine facial beauty [3]. Smile is one of the most effective means by which people convey their emotions and occupies second place, positioned behind the eyes only, as the most important feature of facial attractiveness. It is the facial expression that denotes joy and sympathy, and can therefore influence the way an individual is perceived by society, both professional and social. A balanced and attractive smile is paramount, the goal of modern orthodontic therapy [4]. Beauty and harmony are the objective and quantifiable facial features that humans seek and long for because they play an inherent role in behavior and social perception around the world. Increased awareness of facial aesthetics has also led to an increase in the number of patients seeking orthodontic and orthognathic treatment. Aesthetics have become increasingly important in the practice of modern Restorative Dentistry and are synonymous with a natural, harmonious appearance. An attractive or pleasant smile clearly improves the acceptance of an individual in our society, improving the initial impression in interpersonal relationships [5].

The purpose of this study is to present the communion of these concepts - Visagism, harmonization and attractiveness - in an orthodontic patient who presented with a gummy smile.

Case Report

A Caucasian female patient, 22-years-old, came to the private clinic complaining of a gummy smile during orthodontic treatment (Figure 1). The patient was very shy and introverted, reporting an infantilized smile due to the gummy smile and dental length.

Figure 1: Patient presenting gummy smile.

At the extraoral clinical examination, a discrepancy was analyzed between the length of the upper anterior teeth and the prominent gummy smile (Figure 2 and 3). The length of tooth 21 was measured with 8.3 mm (between the cervical line and incisal edge) and the gummy smile with 13.9 mm (between the lower edge of the upper lip when smiling, and the incisal edge of tooth 21). Additionally, mouth breathing was checked for lip incompetence caused by the absence of passive lip seal.

In the intraoral clinical examination, the anterosuperior sextant was disharmonious in relation to the length of the contiguous teeth (Figure 4). Chu's proportional gauge demonstrated disproportion

Figure 2: Measurement of tooth length 21 (8.3 mm) characterizing the dental discrepancy.

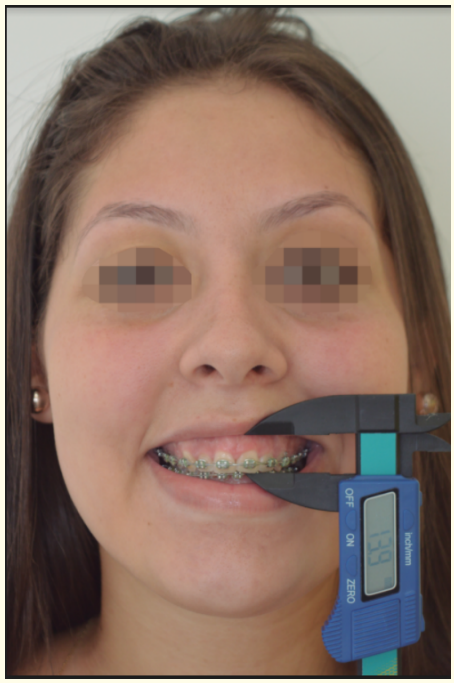

Figure 3: Measurement of gingival exposure (13.9 mm).

Figure 4: Intraoral clinical aspect, presenting disharmony in the dental length of the anterosuperior elements.

between length and width of tooth 11 (Figure 5). Additionally, a heightened gingival exposure greater than 3 mm was determinant for the classification of the gummy smile.

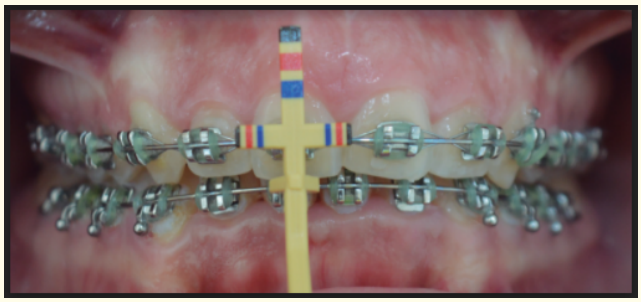

Figure 5: Disproportion between length and width of tooth 11 verified by the Chu's proportion gauge.

Gingivoplasty was proposed to redefine the gingival arches and make them more harmonious, thus reducing the dentogingival discrepancy of the gummy smile. The patient agreed and accepted to perform the treatment. However, before the gingivoplasty, oral hygiene guidance was recommended, with the purpose of reducing gingival inflammation and avoiding the possibility of gingival growth recurrence.

After 7 days of consultation for oral hygiene guidance, the gingivoplasty was performed with electric scalpel. The length of the teeth was increased, characterizing the dental zenith (Figure 6 and 7). There was no need for the use of surgical cement, since the wound process occurs by second intent. The patient was oriented and analgesic drugs were administered in the postoperative period.

Figure 6: Gingivoplasty: immediate post-surgical on the left side of the maxilla.

Figure 7: Gingivoplasty: final immediate post-surgical.

After 30 days, in the subsequent consultation, satisfactory tissue repair was observed and no changes or complaints were reported by the patient (Figure 8). The use of the Chu's proportional gauger showed an improvement in the harmony of the ratio between length and width of tooth 11 (Figure 9). After removal of the fixed orthodontic appliance, even with increase in the length of the upper anterior teeth, the gummy smile was further evidenced (Figure 10). The length of the tooth 21 was measured at 9.9 mm (Figure 11). The patient's complaint still remained.

Figure 8: Post-surgical (30 days) of the gingivoplasty.

Figure 9: Improvement in the harmony of the ratio between length and width verified by Chu's proportion gauge.

Figure 10: Improvement of harmony of the ratio between length and width dental, although the gingival smile is persistente, after removing the orthodontic appliance.

In the same consultation, the botulinum toxin type A (Botox® 200 units, Allergan, Westport, Ireland) was applied. It was diluted in 2 ml of saline solution, according to the manufacturer's standards, and injected 2 units in the recommended site, laterally to each nostril. After the application, the patient was advised not to lower her head in the first 4 hours and not to perform physical activities for 24 hours after the procedure.

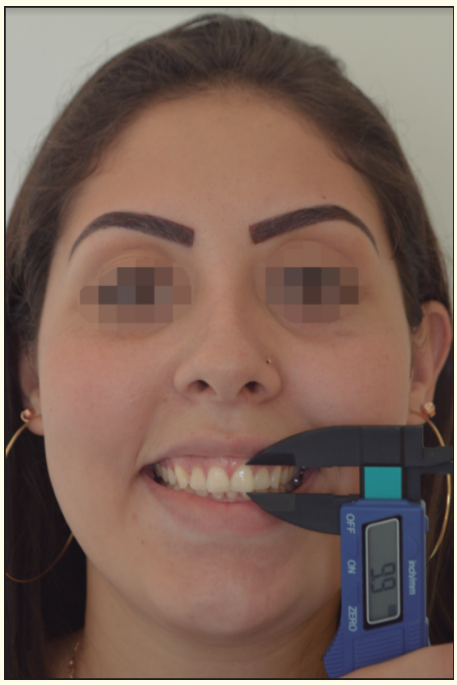

Figure 11: Increase in dental length 21 (9.9 mm).

Figure 12: Reduction of gummy smile by application of botulinum toxin (after 15 days).

After 15 days, the patient was evaluated presenting with uniform upper lip dehiscence (Figure 12). The main complaint was eliminated, as well as an improvement in the self-esteem and sociability of patient. No side effects or complaints were reported. The patient was oriented regarding the recurrence of the gummy smile after, on average, 4 to 6 months of application.

Discussion

The philosophy of Visagism includes two aspects - the psychological and the geometric. In the first, the psychological concept prevails, in which the patient chooses his physical according to the image he/she wants to transmit. The second dictates that balanced measures favor harmonization according to their biotype [1]. In particular, we recommend the geometric aspect, in which we particularize beauty according to the original patient biotype, but still camouflaging imperfections, highlighting qualities and balancing the whole, naturally, harmonizing the oral cavity to the face. This approach favors facial attractiveness, however, it respects the uniqueness of each patient and does not contemplate standardization.

The attractiveness and beauty of the face are quickly determined in the first seconds when seeing the face [1]. The face with balanced proportions is better tolerated, even for patients who present with a gummy smile, and may attenuate their negative perception of gingival exposure [6]. The ideal smile concept is based on morphology and color dental and on the proportional relationships between teeth, lips and gums [6]. The smile, as an integral part of the face, has been the subject of numerous studies [2-8].

According to Godinho., *et al*. [8], when analyzing the smile and facial components (smile, nose, eyes, hair, chin, eyebrows and skin), a strong correlation was observed between the face and the smile. However, for the other factors evaluated, no significant correlations were observed. However, the male perception differs from the female perception, in which the first is attracted to the smile (49%) and eyes (22%), while the second is attracted to the smile (69%) and skin (13%). Still according to the authors, malocclusions influence the perception of attractiveness, intelligence, personality and behavior. Individuals with normal occlusion are considered more attractive, intelligent, pleasant and outgoing. Previous crossbite leads to negative perceptions, and patients with several diastemas are considered less conscious and pleasant.

The presence of diastemas [2,4,6,7] and gummy smile [4,7] were considered the least aesthetic and attractive factors, particularly by female evaluators [5,7]. The mean smile and midline deviation were the least noticeable characteristics [7]. However, according to Tosun and Kaya [2], the coverage of the incisal edges of maxillary incisors has a negative influence on smile attractiveness, and orthodontists have a preference for minimal exposure to the mandibular incisors and almost complete display of maxillary central incisor crowns.

Gummy smile is conceptualized by the gingival exposure, when smiling, of more than 3 mm of height [5,9-11]. The gummy smile was managed by us through the application of botulinum toxin, adjuvant to orthodontic treatment. The botulinum toxin application favored not only facial aesthetics but also the mouth breathing referred by patient due to lip incompetence caused by the absence of passive lip seal. The improvement in self-esteem can be verified by comparing the initial figure (1 to 3) with the final figures, with the performance of the gingivoplasty (Figure 10 and 11) and the application of the botulinum toxin (Figure 12). We have noticed a gummy smile more frequently in dolichofacial patients [10,11]. Regarding the characterization of the facial biotype, the mesofacial pattern was considered the most attractive in comparison with dolichofacial and brachyfacial patterns [3].

Conclusion

The growing interest in facial aesthetics has increased the search for orthodontic treatment, leading orthodontists and patients to perform treatments not only for functional purposes (ideal occlusion) but also for facial aesthetics. Paraphrasing the Latin saying "virtus in medium est" we can conclude that the attractiveness of facial beauty lies in balance: adequate dental alignment promoted by orthodontic therapy and reduction of the gummy smile caused by the application of botulinum toxin. The gummy smile is one of the most pejorative characteristics in the negative perception of facial attractiveness. In the present report, there was an improvement in the attractiveness and self-reported perception and an increase in the quality of life and well-being reported by patient.

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Volume 3 Issue 10 October 2020