CONSIDERATIONS ON THE INFLUENCE OF THE TECHNOLOGICAL AND CLINICAL FACTORS IN THE AESTHETICS OF THE REMOVABLE PROSTHESES

Irina Gradinaru¹, Loredana Hurjui², Georgiana Macovei, I Ion Hurjui², Magda-Ecaterina Antohe ¹

1 „Grigore T.Popa” University of Medicine and Pharmacy of Iasi, 16 Universitatii Str., Iasi, Romania
Faculty of Dentistry, Department of Implantology, Removable Denture Technology;
2 „Grigore T.Popa” University of Medicine and Pharmacy of Iasi, 16 Universitatii Str., Iasi, Romania
Faculty of Medicine;

*Corresponding authors: Georgiana Macovei, e-mail: dr_geo_m@yahoo.com
Loredana Hurjui, e-mail: loredanahurjui@gmail.com

Abstract: The research confirms that someone’s beauty considerably influences one's judgment, attitude and the estimated preferences of the others. From this perspective, the goal is to make the aesthetic restorative dental to appear as being natural. Natural teeth and artificial ones must be in harmony with the personality, age and sex of the patient. Partial removable dentures is part of aesthetic dental restorations which is most often neglected. Because the emphasis in the contemporary medical practice dentistry on the aesthetic dentistry and the progress that have taken place in the last 15 years in this area, patients require prosthetic that not only should be comfortable, but must be as little visible and as close to the natural look.

Key words: aesthetic, removable prostheses, dental restauration, smile, oral rehabilitation

INTRODUCTION

Aesthetic rehabilitation in the territory of prosthetic partially movable can be raised up to the level of art, knowing that a prosthetic unaesthetic done disfigures the patient, affecting his/her normal life, decisively influencing the individual behaviour in society, ends up emphasizing the complex of inferiority. It is known that aesthetic, this complex territory, can’t remain only in the exact sphere of science, bringing together the concepts of 'philosophy of beauty "with the principles of art [1,2,3].

The final result of rehabilitated mixed aesthetic that joins the mixed prosthetic and the mobilized ones, is determined by lines, colours, shapes, proportions. It is impossible to strictly define scientific rules for choosing artificial teeth. Artificial teeth can be made in the colour, shape and volume you want. In order to give back the aspect of naturalness, a series of dental abnormalities may be performed. The false gum completes and physiologically compensates the bone resorption asymmetries, while being an effective support for soft perioral parts [4,5,6]. Palla recommends the overall look of the patient's face and not only the singular evaluation of the teeth. Teeth fitting can be appreciated if attention is focused on the oral cavity, but integrated into the facial assembly is likely to lead to disastrous results [15].
AIM

The aim of this study is to analyze the factors, anchored in the territory of chosen technology and biomaterials, superimposable on various clinical particularities, whose influence can be quantified by the degree of aesthetic optimization in the removable prosthesis. This study is centered on a meta-analysis of a total of 25 articles specialized in 2012 - 2018.

MATERIAL AND METHOD

The articles analyzed were selected by keywords from known databases: Pub Med, SCIENCE DIRECT - Masson Titles Elsevier Science Direct Collection, OVID MEDICAL - OVID High Impact Collection.

RESULTS AND DISCUSSIONS

It is very important to see the jaw and mandibular arches, the incisal edges of the anterior teeth, and the harmony of the height and orientation of the occlusal reference plane to the frontal and sagittal plane, choosing carefully the colour of the artificial gum (Figure 1).

Palla considers it particularly important to analyze the facial of the patient standing during a conversation that allows appreciation of dental-facial harmony. It is important to work out and discuss with the patient during the trial of the tooth wax model. This therapeutic phase should never be carried out in speed because it is fundamental to achieving the final success [14, 15].

The patient must have enough time to appreciate the difference between the old prosthetic parts and the new prosthetic replacements where the impression of naturalness is essential. The shape and contour of the teeth should be fully consistent with the aspects of the gingival contour (Fig. 2).

In order to achieve good aesthetic results, the practitioner will focus on the lip aspect. At first impression, if a patient is edentured or if the appearance of artificial arches is not correct, we can figure out the appearance of the lips [7]. An essential role in shaping the final aspect of dental restoration in patients with total prosthetic construction is the choice of shape and appearance of the teeth.
Thus, the shape of the central incisors must reflect the contours of the patient's image, be in harmony with the patient’s sex, their selection in terms of personality, age, elements that influence the final choice and underlie the creation of the natural illusion (Figure 3).

Fig. 3 Aspects of the teeth shape based on the shape of the face [18]

Femininity or delicate personality must be characterized by its round, smooth shape, outlining the fluid appearance of the teeth presenting these attributes. On the other hand, frontal teeth are chosen for shaping the masculine force with clear, vigorous lines with well-rounded angles. The visual perception is the result of fitting artifacts in harmony with the general shape of the patient's facies. The size of the anterior teeth is sometimes more important than the shape, leading in some cases to the very wide arcade appearance, outlining the image of an unaesthetic oral corridor [8,9]. The difference between the facial width and that of the dental arcade always gives the impression of the absence of the natural and the certainty of the prosthesis. Unfortunately, the aesthetic effort is limited to the anterior maxillary teeth in most cases, while the appearance of mandibular teeth is equally important in conveying the final result. A coarse error, commonly found in dental practice, is the extremely rigorous symmetry encountered at the level of inferior incisors. The aesthetic appearance can be improved by the colouring of the front teeth as well as through the edges of the incisors. An extremely important role is played by the tilting of the teeth, giving the appearance of habitual occlusion [10]. The influence of gingival modeling on the final facial expression is crucial in achieving harmony with the age of the patient, a determinant factor in choosing contour details.

The emphasis on youthful appearance is possible through the elongated modeling of the gingival papules with dental neck coverage in full agreement with the short, flat and neutral appearance of the teeth. For the middle age, dental neck coverage by the gum should stop at the enamel coronary limit. The shape of the teeth in this situation takes long forms and with an accentuated volume [11]. In the medical practice, the final dental results of a partially movable or mixed restoration are dependent on the term of aesthetic zone, which is used to describe the gums or the teeth as they are noticed during the smile. The limiting of the aesthetic area should be described, drawn in the patient’s record [12].

This practical aspect would drive to the avoidance of the inclusion of unwanted metallic elements in the treatment plan. According to Preston, the aesthetic area is anything the patient imagines. Even if the patient during the smile does not expose any metal part, he still might get the impression that these are noticed. Physicians need to communicate with the patients when they use metal on the vestibular surface of the teeth as a form of elements for maintenance, support and stabilization, even if these unaesthetic elements are not visible for the aesthetic area (Figure 4).
In 1984, Tjan et al demonstrated that the smile of 87% of the patients is in the limits of "average smile" in which the length of the anterior maxillary teeth from the cervical to the incisal level was visible towards the first or second premolar tooth. In such clinical situations is needed a particular attention in the choice of the elements of maintenance, support and stabilization represented by hooks, resorting to alternative treatment options, which remove hooks, spaces or any other metallic element that could disrupt the aesthetic zone. In the same study, a percentage of 4% of the patients, during smile, exhibited maxillary gums attached. This category of patients are the most difficult to satisfy from the aesthetic point of view since all components of the prosthesis are visible [13,14]. The anterior mandibular teeth must be observed as shape, size, visibility/exposure during smile, having an important role in preparing the treatment plan. Most of the patients expose only 50% of the mandibular anterior teeth and a 50% or less of the vestibular sides of premolars in the aesthetic zone while all the occlusal surfaces of the premolars are frequently seen. In the selected therapeutic solution the concealed elements could be visible in a prosthetic restoration. The exposure of the mandibular teeth and gum during smile occurs along with aging [15,16]. The aesthetic zone should not be an area of difficulty for the practitioner and should not be used for items targeted for maintenance, support and stabilization, represented by hooks, the specialists manifesting their agreement on that approach to less complicated in the treatment with partially removable prostheses being the best choice. It can be used every means for maintenance, support and stabilization which provide a single support area for the not restored teeth and the aesthetics should not expose any metallic component for the prosthesis partially removable. In therapeutic alternatives is, in which the biomechanical considerations plead for the use of different types of clasps, the patient should be informed of the fact that these elements of anchorage will be located on the vestibular front teeth [17]. They will not be visible during the smile or laugh, however, but may be visible if the lips are distant in a forced way. The patient must be informed on its appearance before the building of the metal structure. The divided clasps represent the most aesthetics category of conventional clasps with a good degree of retentivity, giving the practitioner a better opportunity to place the active metal component on the level of the subequatorial zone, the least visible (Figure 5). The proximal circumferential part of the hook should not be located in the third tooth occlusion.
The aesthetic is very important and does not require support devices: when the vestibular side of the tooth is visible in the aesthetic zone, the physicians should think to another location for the retentive arm or for the support. It is important to make a difference between the support arm and the retention clasp. The reciprocity of a force from the retentive arm practically cannot be obtained without the milling pattern of restoration. Mutual clasps are used to prevent horizontal movement of clasps after their placing is achieved. Together with the retentive clasps, these support clasps observe a basic principle for the design of the clasps by circling the support zone of the tooth for more than 180°. The aesthetic is very important, the best aspect is reflected in the hybrid prosthesis, in which the fixed restoration is represented by the metal-ceramic crowns, and the maintenance, support and stabilization elements are special systems (Fig. 6). Exact attachments are required, represented by intra or extra-coronal backstops, sagittal, telescopic crowns, rods, avoiding the placing of clasps in aesthetic areas.

The prevalence of aesthetic aspects becomes very difficult when patients still have four or less remnant teeth on the arcade. In these cases special attention must be given to the biomechanical principles. In this clinical situations, there must be a degree of difficulty in the development of partially removable prosthesis design, avoiding the space between the prosthetic substitute and the remnant tooth that have an unaesthetic effect [18,19]. Overlay prosthesis to provide sufficient clinical situation laid a number of outstanding periodontal dental elements. An alternative represents the single therapeutically effective alternative that admirably combines aesthetic concepts with their optimum biochemical aesthetic particular type as given by a special system of occlusal attachment [20].
A cellular defects varies from patient to patient depending on the etiology and management of edentation. The alveolar region of the remnant teeth on the arcade should be useable as a guide in the combining the acrylic resins, resulting in hiding the loss of material in a natural manner and final aesthetic [21]. Incorrect placing of the junction imprint gum of the artificial teeth in relation with the natural ones lead to a thick saddle, these prosthetic substitutes interfer with the final result of the restored prosthetic, creating visible aesthetic compromises. It very important to control, in these circumstances, the proximal contour of the teeth, with a special attention for the teeth in form of a bell, with the inversion of the proximal taper, gingivitis, morphological detail which create a black space between the artificial adjacent teeth and the saddle of the prosthesis, disrupting the final aesthetic prosthetic rehabilitation.

Conclusions

1. Demanding aesthetics become a social phenomenon in the present life conditions, representing for the dentist not only an important issue in the world of work, but a real civic debt.
2. The type of prosthesis partially mobilized in full agreement with the particular prosthetic-field, the presence or absence of specific training in conjunction with the manner of prosthetic restoration individualized aesthetic modeling decisively influencing the results.
3. The aesthetic area has a fundamental role in the clinical purpose of the case, it should be evaluated and introduced as part of the clinical examination. The dentist should photograph the patient's smile to determine the aesthetic area, make a sketch of it . A thorough aesthetic evaluation materializes into a real support in choosing the design of choice for future prosthetic restoration, as well as the duration of the stages of the treatment plan.
4. In the context of a complete and complex prosthetic solution, the aesthetic requirement must be understood and metered in relation to the importance of the other factors: mechanic, functional, biological and psychic, all of this factorial palette being subordinated to the concept of complex oral rehabilitation.

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