HYPERFUNCTION PREVIOUS SYNDROME: CASE REPORT

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ABSTRACT

Patients upper denture wearers and Partial Prosthesis Removable bottom (Kennedy Class I) may have the Hyperfunction Previous Syndrome also known as Combination Syndrome or Syndrome Kelly. This syndrome was described by Ellisworth Kelly in 1972 and has very striking features. Different treatment proposals were presented and described over the years and they all converge to the adverse effects of previous contact between the lower natural teeth or prosthesis type protocol and artificial teeth of dentures. Considering that this association may be one of the factors triggering the combination syndrome, this study aims to demonstrate the clinical features and present a form of treatment through a clinical case report returning function, phonetics and aesthetics for the patient.

KEYWORDS: The previous hyperfunction syndrome, dentures, natural teeth

1. INTRODUCTION

The alveolar bone resorption is a process which inevitably follows after extraction of natural teeth. This process can be accelerated by the use of removable prostheses or even aggravated when they are prepared or used improperly. As well as the sharp decline in bone tissue in the anterior region, the uncontrolled growth of the mucosa and the posterior alveolar bone interferes unfavorably implementation and prognosis of new prostheses[1].

Many of these patients present with five changes observed by Kelly and dictated by this syndrome: bone loss in the anterior region of the upper edge, extrusion of the above natural teeth, increased jaws tuberosities, bone loss from the posterior region of the lower arch under the Removable Partial Prosthesis (RPP) base removable and papillary hyperplasia of the hard palate mucosa. Kelly was the first to make such observations and reports that bone loss of anterior maxillary portion is the key to the other syndrome changes[2].

In the long term, this situation often results in an occlusal instability which, if not corrected, can lead to progressive atrophy of the mandibular posterior alveolar ridge. This process has a slow evolution and most often is unnoticed by the patient and also for professional, so perpetuated[3].

Various forms of treatment are proposed for the combination of the syndrome: dental implants in the jaw for greater stability of the prosthesis when there is enough bone; implant-retained prosthesis, for stability of the occlusion and reduction of previous occlusal forces; overdenture mandibular and maxillary [4].

This syndrome is the potential iatrogenic stomatognatic system, especially to dental support structures and mucus-bone, as well as the temporomandibular joint according to the occlusal imbalance and instability (s) of the prosthesis (s). Therefore, diagnosing the syndrome and determine the appropriate treatment to the patient's needs may stop the destructive process, creating clinical conditions for the restoration of health[5].

Theoretically, the most appropriate therapeutic measures to stop the deterioration factors and self-support of the prior hyperfunction syndrome would be the maintenance of the bone supporting the pre-jaw by placing implants and stabilization of the support at the ends mandibular free using in the same manner the implants. In cases where bone resorption is so advanced that does not allow the placement of implants would consider using other solutions improving the bone support, combined or not with the placement of implants[6].

In trying to establish an appropriate treatment to minimize the effects of the syndrome, one can highlight the cited by Herman *et al.* (1993)[5], who reported the placement of implants to support the RPP lower. This alternative eliminates the free end preventing vertical and lateral movements responsible for accelerated bone resorption below the resin base PPR5 already Ahmad & Yunus (2008)[6] emphasize the use of a different casting technique, together with a prosthesis design and appropriate occlusal scheme as a way to mitigate the problems arising from the combination syndrome, and Tolstunov

(2009)[7] suggests the use of dental implants for both the maxilla and for the mandible as an alternative treatment.

This study aims to demonstrate the clinical features and present a form of treatment through a clinical case report, restoring function, phonetics and aesthetics for the patient

2. CASE REPORT

Patient, 60 years old, male, sought the Dental Clinic of the University Severino Sombra, Vassouras - RJ, and as main complaint reported that their implants were falling in speaking and would like to change them. Intraoral clinical examination, the patient was diagnosed with Previous Hyperfunction Syndrome as they have been observed some signs for such a diagnosis as the presence of the lower teeth 31, 32, 33, 35, 41, 42 and 43, the presence of upper dentures the mucosa of the anterior jaw slack and the extrusion of the lower anterior teeth.

Figure 1. Initial frontal and side smile

Figure 2. Initial intra oral aspect

Figure 3. Mucosa of the maxillary and extrusion of the lower teeth.

After collecting initial data, the patient was asked about the possibility of treatment, which would include the construction of a denture upper and a removable partial denture, thus reduce the impact caused only in the lower anterior teeth also being distributed to the teeth later. Thus, this may stabilize bone resorption in the anterior maxilla.

The first consultation was held the anatomical molding and shaping of the RPP. In anatomical molding was used silicone Speedex condensation (Vigodent, SP), making the first molding heavy folder to be able to depart from the tissues, and the second molding was used to carry folder, equalizing the pressures and obtaining a faithful copy and more detailed.

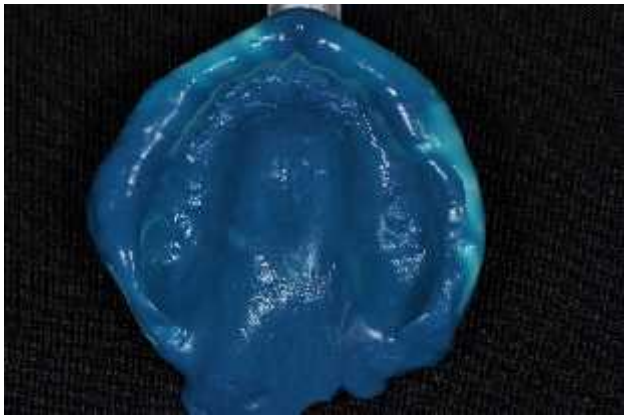

Figure 4. Anatomical molding.

Before making the molding with alginate for making the RPP, were first carried out niches in the teeth in the mesial 35 and cingulate 33 and 32. Then the plaster was poured into each mold, and the upper mold was made dicagem to have a greater reproduction of the vestibule fund. After this procedure, the lower model was referred to the prosthetic in order to perform the metal structure. With the top model was made ready an individual tray with clear acrylic resin to be made functional molding, to be even more faithful and more detailed.

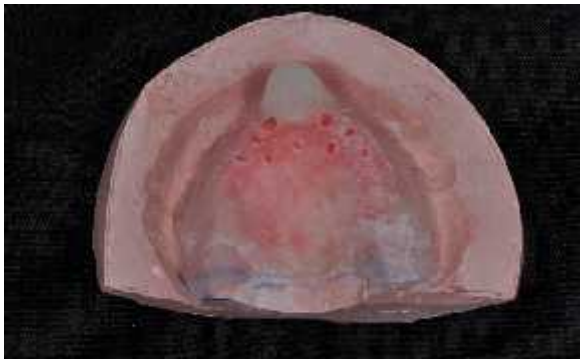

Figure 5. Acrylic impression tray.

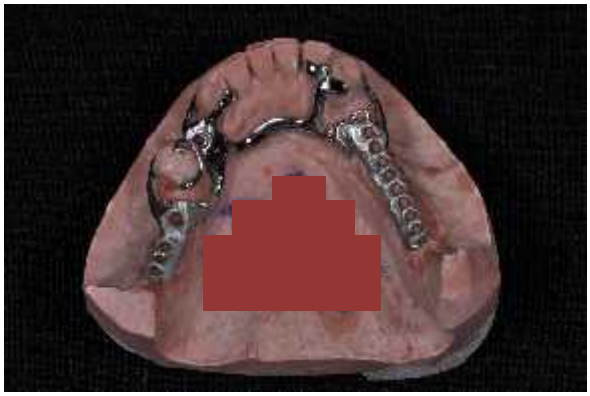

Figure 6. Niches and metal structure.

In this second molding undercuts made in the anterior palatal region and holes in the tray to the material flow because the mucosa was extremely flaccid, molding was performed with zinc eunolic folder, and then the light folder addition of silicon.Again we made the dicagem that mold, to have a full reproduction of the vestibule fund and vazamos the plaster. The important thing, regardless of the name used, is that the molding material does not bend the mobile mucosa region, which in this case is considered relief zone and gently compress the compression areas, reproducing the anatomical details of chapeável area and the muscle insertions.

Figura 7. Relief on the palate.

Figure 8. Perforated impression tray.

Figure 9. Moldagem funcional com alívio em área flácida.

After completing this step, it was made proof based acrylic resin and wax rollers number 7 for the aesthetic markings and installing semi adjustable articulator. After these procedures were performed hits vestibular anterior region (lip support), height and vestibular position, observing the visible wax with the lip at rest.

Figure 10. Proof base.

To correct the upper region, the patient was placed in RC and used the Fox ruler, watching the line of the tragus to the nose wing parallel to the occlusal plane and the incisal plane parallel to bipupilar plan. The lower wax plan was placed on the line dividing the wet mucosa of drought, the markings on the upper wax plan were: midline, nose wing line (canine distal to the distal of canine)

and forced smile line (height incisor).

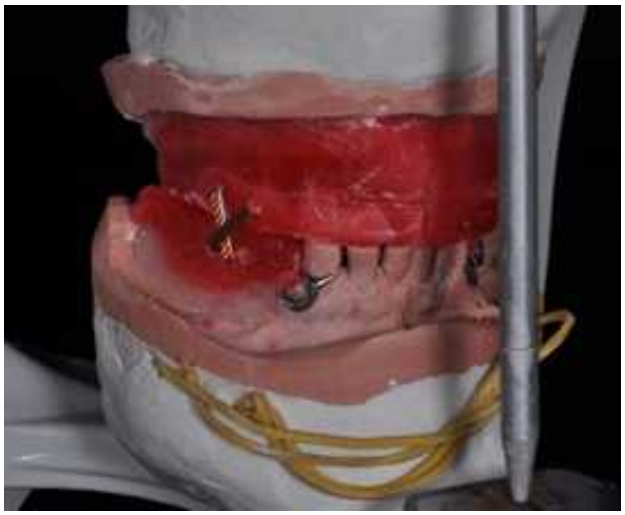

Figure 11. Mounting on the articulator.

After these procedures work was mounted in semi-ajustável articulator in centric relation and sent to the prosthetic to the making of upper dentures and lower partial dentures. For fixing the wax plans were used staples and eunolic zinc paste.

Figure 12. Mounting on the articulator.

Figure 13. Mount side view on the articulator.

The choice of color of the teeth, were made through the lower natural anterior teeth and was determined to A3 color VITA scale. The tooth model was chosen by letter mold NOBILE 2. This choice was made according to the design of the dental arch of the patient, and we can see that is an oval arch. The central incisor average 9 mm height and 46 mm from canine to canine, thus it was decided to choose the -3N- tooth.

Figure 14. Choice of gum color.

Figure 15. Choose the teeth color.

As soon as the dentures back from the lab, was made to test the new prosthesis in the patient, and the result was very satisfactory for the purpose of the work was to minimize the touches of anterior teeth were successfully obtained.

Figure 16. Occlusion no ringing previously.

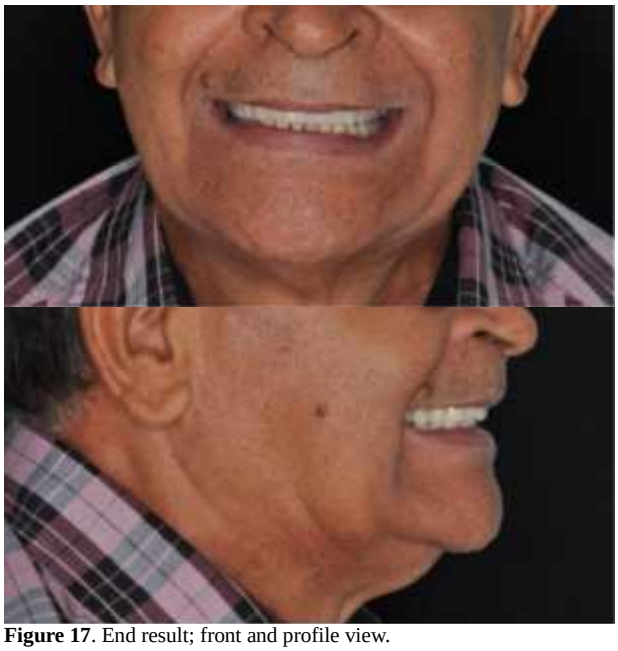

Figure 17. End result; front and profile view.

3. DISCUSSION

The causes of occurrence of the combination syndrome are contradictory in the literature. Although the literature point out specific clinical data that make up this syndrome, it is unclear whether the patient should present the five signals simultaneously to be considered bearer of combining syndrome. However, there is a consensus that the events starting with the lack of adaptation of patients using lower removable partial denture. This difficulty is justified by the large bone resorption seen in these patients, due to old dentures poorly planned and / or executed.

Bone loss is the main consequence of syndromes me the combination. Kelly (1972)[8] concluded that the process starts over the posterior bone loss in the jaw, which was confirmed by Nogueira *et al*. (2002)[9]. In contrast, Saunders *et al.* (1979)[9] reported that bone loss in the anterior maxillary area is the precursor clinical signs of syndrome.

Oral Rehabilitation, through total or partial dentures or both, have been shown, along the dental history, a feasible way to properly treat patients. The importance of knowing diagnose, make a treatment plan and knowledge of the signs of destruction of the supporting tissues that characterize the syndrome called the combination, is of utmost importance[10,11].

When the anterior lower teeth are present as opposed to an upper dentures, trauma on the anterior maxillary region is inevitable because patients tend to use them functionally with greater strength. This functional excessive force and in some cases parafunctional in excursive movements, constantly overwhelm the anterior region of the jaw, pressing her and taking her to an exaggerated resorption and even to a possible development of epulides cracked. The author believes that implant Bridges are the only option to minimize syndrome combining long-term and restore an occlusal balance really stable[12].

According to Zarb (2006)[13] the main consequences of the use of implants is the reduction of residual ridge and pathological changes of the oral mucosa. So that the adverse sequel is reduced some factors must be considered: the patient with dentures should follow a regular control at yearly intervals, allowing an acceptable adaptation and a stable occlusal condition; the restoration of the partially edentulous patient through the dentures should be considered if this is the only alternative as a result of inadequate periodontal health, an unfavorable location of remaining teeth and edentulous patients and economic limitations should be aware of the advantages of an implant-supported prosthesis. In young patients, the primary benefit would be the reduction of residual ridge resorption. In older patients, the main benefits are the improved comfort and maintenance of masticatory function[13].

In a study by Cunha *et al.* (2007)[5] evaluated the prevalence of the combination syndrome. The clinical findings were correlated with the presence or absence of temporomandibular disorders (TMD) that allow the classification of subjects studied according to the degree of TMD (absent, mild, moderate or severe). It was observed that no patient had all five signals described by Kelly (1972)[8] and 84.85% were between two and four signals.

O conhecimento e aplicabilidade dos profissionais que trabalham com prótese dentária e observaram que a síndrome de combinação está presente na clínica diária em 75% dos profissionais[2]. A partir dos resultados obtidos, concluíram que a maior parte dos profissionais não utilizam uma técnica específica de tratamento e não sabem identificar todos os sinais que caracterizam tal síndrome. Os autores afirmam que revisões frequentes para avaliar a estabilidade e a retenção das próteses devem ser programadas e ajustes devem ser feitos quando necessário. Kelly (1972)[8] concluiu que o processo se inicia através da perda óssea posterior na mandíbula, fato confirmado por Nogueira *et al.* (2002)[10].

In a study of syndrome combination of upper dentures patients and lower implant-supported overdenture, observed that the combination syndrome also occurs in patients who have lower overdentures retained by two dental implants. Thus, as more specified treatment mode, it is necessary to install implants in the maxilla minimizing the previous contact between the overdenture lower and an upper denture[14].

According to to Feori et al. 200015, the use of natural teeth, and more recently implants as support elements and stabilization for fixation on dentures and fixed prostheses, brought new perspectives to minimize the effects of this syndrome in the lower arch, providing greater comfort and masticatory efficiency for these patients, showing with values close to those observed in dentate patients[15].

4. CONCLUSION

Currently, even with all the technological advances, the bone resorption process is inevitable after the loss of teeth and is accented with the use of inappropriate aids. Considering that associate Total prosthesis (TP) upper with removable partial dentures (RPP) below can be one of the triggering factors of the previous hyperfunction syndrome, it is for the dentist to diagnose their characteristics before establishing any form of treatment with the purpose of obtaining prostheses with appropriate occlusal schemes for the return of harmony and balance of the Stomatognathic System. Therefore we can conclude that the main objective was achieved since removed the anterior teeth touch the lower.

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