

VALUE OF STABILITY IN THE PARTIAL WIDE TOOTHLESS THROUGH MOBILE PROSTHESIS

¹ANCA FRĂȚILĂ, ²C. BOITOR, ³V. NICOLAE

^{1,2,3}"Lucian Blaga" University of Sibiu

Abstract: The mobile prosthesis which uses mixed stability (dento-parodontal and mucosal) in the restoration of partial wide edentation provides conditions for biomechanical comfort, acceptance and biological integration of the prosthesis. The prophylactic-curative treatment of the stability accomplished through molten elements of the clamps, special systems, antibasculant systems, implies the inclusion of these in the realisation of the prosthetic plan.

Keywords: partial mobile prosthesis (PPM), support, special systems

Rezumat: Proteza mobilizabilă care utilizează sprijin mixt (dento-parodontal și mucozal) în restaurarea edentației parțiale întinse asigură condiții pentru confort biomecanic, acceptarea și integrarea biologică a restaurării protetice. Valențele profilacto-curative ale sprijinului realizat prin elemente ale croșetelor turnate, sisteme speciale, elemente antibasculante, impune includerea acestora în conceptul realizării planului protetic.

Cuvinte cheie: proteză, mobilizabilă, sprijin, restaurare

INTRODUCTION

The classification of the prosthetic parts by the way of pressure transmission is necessary for understanding the grade of functional readjusted and integration at the stomatognathic system.

The partial mobile prosthesis with mixed support have a medium functional value, which is superior to the mobile prosthesis partially acrylic, with pure mucosal support, because, in the mixed support only a part of the pressures are transmitted to the edentulous crests, while the rest is transmitted in a physiological way on the rest of the teeth. The partial acrylic prosthesis with mucosal support have a less functional value, the mucosa and the periosteum of the prosthetic field are not capable to receive direct pressure which is developed during the functions of the dental-maxillary apparatus, which leads to the atrophy of the bone, with inconsistencies between the base of the prosthesis and her mucosal and bone support, which is quantitative diminished. Those inconsistencies is translated through the higher mobility of the prosthesis during its functions, disortodontic effects of the pillar teeth on which the clamps are applied.(1)

WORK HYPOTHESIS

The adding of support to the mobile prosthesis permits the integration, adaptation and easier accepted of some unfavourable reduced consequences, fact that determined us to enhance the necessity of prosthetic frameworks which include structural elements favourable to support, sustentation and stability.

Through the study we wish to show the prophylactic-curative valences of the support, realized through occlusion pints and rigid supra equatorial elements of cast clamps, special systems, antibasculant elements, the functional extension of the mobile prosthetic pieces, which imposes their inclusion in the concept of realizing the prosthetic plan.

MATERIAL AND METHOD

The cases included in this study have shown partial wide toothless prosthetic restored through mobile prosthesis or mixed prosthetic treatment. The clinical and technological comparative studies were performed on 2 patient batches. The first batch was represented by 49 patients whom manufactured partial mobile framework prosthesis was given to. The second batch had 51 patients, whom received partial acrylic prosthesis. We drew up a study sheet for each case in part, which includes elements that define the particularities of the case under clinical aspect and technological restoration of the partial toothless and the manufacturing of the mobile prosthesis. The patients from the study were taken into care or evidence for 2 years after applying the mobile prosthesis in the mouth, following objective appreciation (the modifications that occurred at prosthetic field level, at the mobile prosthesis level) and subjective (integration, comfort).

RESULTS AND DISCUSSIONS

The first batch was represented by 49 patients whom manufactured partial mobile framework prosthesis we have found the following:

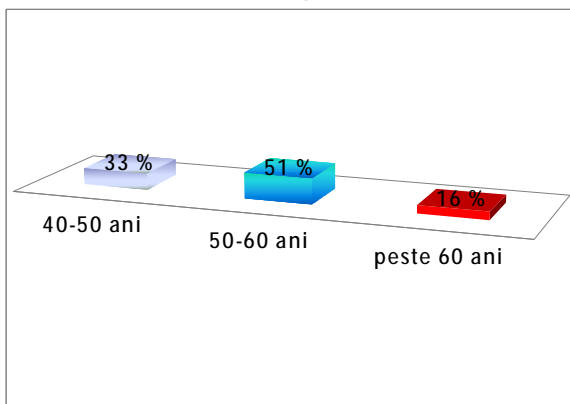
The frequency in function of the age, in the graphic nr.1, relieves to predominate at the age of 50-60 year olds (51%) of the framework PPM, followed by the 40-50 year olds (33%) and the group over 60 year olds (16%).

The study shows a higher frequency of the

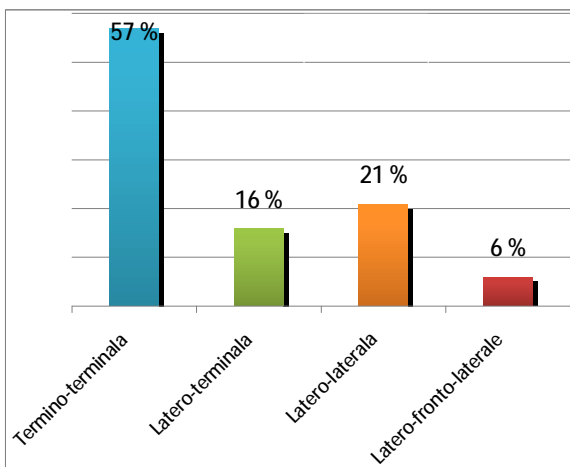
CLINICAL ASPECTS

terminal toothless, usually with the predilection of the premolars and molars in a percentage of 57% (28 cases), compared to the other types of toothless partially restored with PPM framework (Picture no.2).

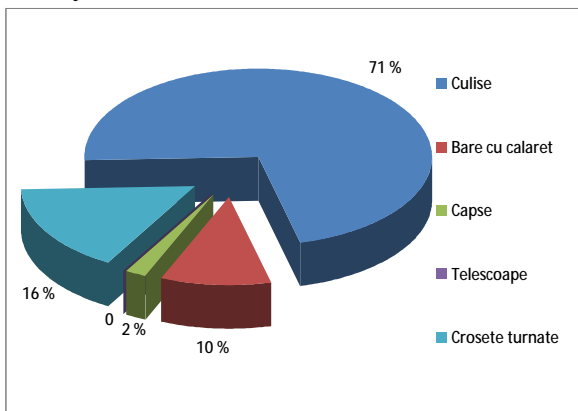
Picture no. 1. The frequency of the framework PPM observed in function of the age



Picture no. 2. The incidence of partially restored toothless through PPM framework



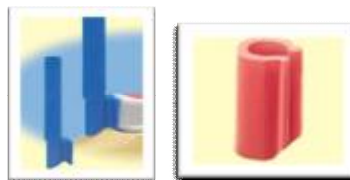
Picture no. 3. Systems of maintenance, support and stability used



In case of the maintenance, support and stability means of the restorations with PPM framework, we have found a higher incidence of the special systems of the connecting links type Bredent 71,4 % of the cases, followed by the cast clamps in 16,3% of the cases, the other types of special systems have a lower weight, rail with raider 10,2%, fastener 2,1% (graphic nr.3)

The connecting links systems are at top, even if they are laborious and need counterbalance elements. In SIBIU the connecting links type matrix with patrice of the firm BREDDENT (Germany) are mostly used.

Picture no. 4. Culise tip matrice cu patrice –firma Bredent



The connecting links use the same alloy for the matrix and the Patrice and present in their interior a garniture of Teflon of different thickness (the thickness is appreciated on a colour code). The garnitures can be replaced without changing the connecting links system, having an acceptable price.(2)

In the case of the composed treatment (hybrid prosthesis) – the intersperse breach are fixed through a bridge and the terminal through mobile prosthesis.(3). The aggregation crowns need to be resistant because they participate at the fixation of the fixed prosthetic restoration and through their presence on the oral side of some steps, ditches, which are needed for the maintenance and stability of the mobile prosthesis. The hybrid prosthesis: the fixed metal-ceramic with extra crown connecting links BREDDENT systems type and the mobile part represented by the framework prosthesis.(pictures 5,6,7,8).

Picture no. 5. The moulding of the frontal layouts group through immersion in the wax bath, the applied prefabricated extra coronary connecting links and realization of the anti tilted elements with the help of the parallelograph



Picture no. 6. The metal body of the fixed restoration after the moulding and processing



CLINICAL ASPECTS

Picture no. 7. The fixed metal-ceramic on the model



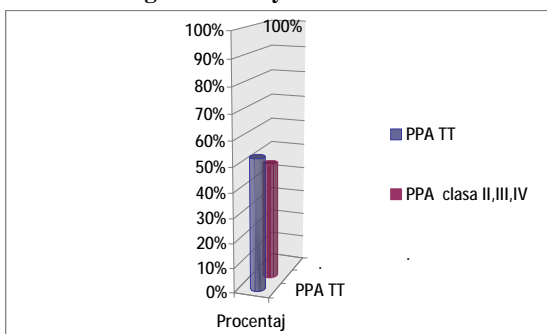
Picture no. 8. The finished composed work in the mouth



On the second batch had 51 patients, whom received partial acrylic prosthesis we have found the following:

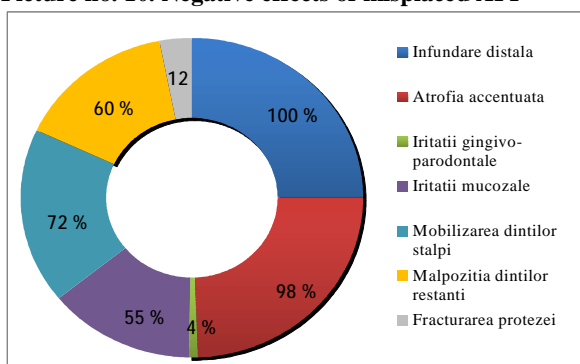
The higher frequency of the restoration through PPM acrylic of the partial terminal toothless or class I Kennedy (53%) compared to the other types of partial toothless (class II,III, IV Kennedy) (47%). (Picture no.9).

Picture no. 9. The incidence of the partial restored toothless through PPM acrylic



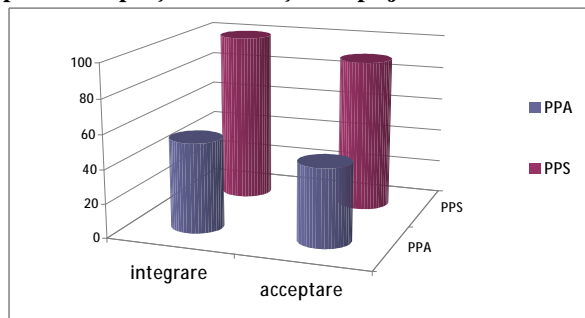
The effects of the PPM acrylic deployment as tipping through stuck of the distal extremity of the denture saddles, atrophy of the bones, mucosal and periodontal lesions, disorthodontic effects of the remaining teeth, the rupture of the dentures as well as their incident are to be seen in picture no.10.

Picture no. 10. Negative effects of misplaced APP



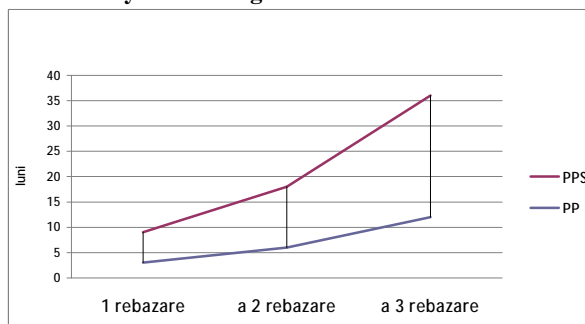
The comparative study made on two lots regarding the integration grade of the partial dentures depending on the support type, the need of rebasing, are to be seen in pictures 11, 12

Picture no. 11. Gradul de integrare și acceptare a protezelor parțiale în funcție de sprijin



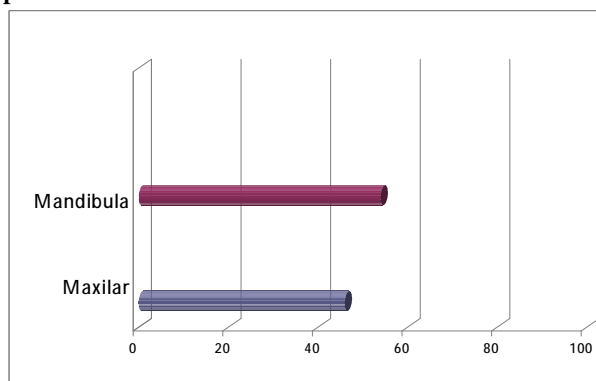
The need of readapting the partial mobile dentures appeared at a shorter time interval after applying PPM in the oral cavity in the case of PPM acrylic, compared to framework PPM, because the mucosal support causes faster bone atrophy.

Picture no. 12. Time interval after applying PPM and the necessity of rebasing



From the point of view of the restoring incidence of PPM on the maxillaries there has been observed a greater frequency at the mandible partial toothless (54%) compared to the partial maxillary toothless (46%) through PPM.

Picture no. 13. Frequency of maxillary mobile prostheses



CONCLUSIONS

1. The clinical statistic study made on a sample of patients with large partial toothless restored with mobile prosthetics underlines a slightly increasing incidence of acrylic PPM (51 cases), compared to framework PPM (49 cases) which is explainable with smaller prices of the acrylic PPM.
2. The status of the prosthetic field after the prosthesis is modified in the use of the PPM acrylic with mucosal support (tilted through clogged of the distal parts of the saddles, accelerated atrophy of the alveolar bone, disorthodontic effects etc.), conserved with the partial prosthesis with tooth-periodontal support and partially conservation with the PPM framework with mixed support.
3. The elements of support that are frequently used with the PPM framework are the special systems BREDENT type (71,4%), which is explained by the advantages given by it (aesthetic aspect, the possibility of replacing the used garnitures, the accessible prices, biocompatibility and special biomechanics of the duro-plast matrix), followed by the molt clamps (16,3%), saddle with riders.(10,2%)
4. The necessity of periodical control with the findings of the unfavourable elements and their replacement.
5. The study sublimes that the mobile prosthesis which use tooth-periodontal support or mixed support, as means of stability, maintenance and stability in the functional limits of the prosthetic field, lead to a quicker biological acceptance and integration at the stomatognathic system.

REFERENCES

1. Andrei I. Tratatamentul edentației parțiale cu proteze mobile, clinica și tehnica de laborator, Ed. Național, 1999.
2. E. Hutu și colab. Tehnici curente în protetica dentară, Ed. Didactică și Pedagogică București, 1999.
3. Ionescu T, Despa G. Sisteme speciale utilizate la protezele scheletate (I). Sisteme de culise, Revista Romană de Stomatologie, Vol.LIV Nr.1.2008, P:31:35.
4. Ghergic L. Aspecte privind utilizarea elementelor speciale de menținere, sprijin și stabilitate-prefabricate- utilizate în protezarea hibridă. Prezentări de cazuri., Revista Romană de Stomatologie, Vol.LIII, Nr.4.,2007, P:189:192.
5. Bratu D, Bratu E, Antonie S. Restaurarea edentațiilor parțiale prin proteze mobilizabile, Ed. Medicală, 2008.
6. Baker J, Goodkind R. Theory and Practice of Precision Attachment Removal partial Denturs, St Louis, CV Mosby Co, 1981.

Note: Dental technician: Daniel Munteanu.