

# CLINICAL-STATISTICAL STUDY CONCERNING THE PROSTHETIC REHABILITATION OF EXTENDED PARTIAL EDENTATION

DANA DUMITRA<sup>1</sup>

<sup>1</sup>County Clinical Emergency Hospital Sibiu

**Keywords:** extended partial edentation, prosthetic rehabilitation

**Abstract:** Extended partial edentation represents an illness with a high incidence rate in the population, motivating the interest for the study of functional and aesthetic rehabilitation by using different therapeutic methods. Purpose of the study: Evaluation of extended partial edentation in terms of etiology, multiple complications and therapeutic alternatives. Study material and method: A clinical statistical study was performed on a sample of 60 patients of both genders, aged between 30 and 70 years old, who presented different types of partial edentation, restored or not. The objectives were to: determine the most frequent cause of edentation, choose the best restoration according to the particular clinical situation, re-establish the function of the dental apparatus, and to determine the patients' acceptance of the prosthetic treatment. Results. The results concerning the frequency of the extended partial edentation depending on certain parameters were presented using diagrams. Finally, the relevant conclusions are presented. The extended partial edentation is very common and it has a complex etiology, as well as complications that can determine the significant loss of life's quality. Conclusions. The high incidence of extended partial edentation motivates our interest in the study of functional and esthetic rehabilitation using dental implants. We identified as the major etiological factor of edentation, the chronic gum disease followed in order of influence by: incorrect prosthetic restorations, root destruction and massive coronary debris, tooth decays.

**Cuvinte cheie:** edentație parțială extinsă, reabilitarea protetică

**Rezumat:** Edentația parțială extinsă prezintă o afecțiune cu un grad de incidență ridicat în rândul populației, motivând interesul pentru studiul reabilitării funcționale și estetice folosind diferite metode terapeutice. Scopul lucrării: Evaluarea edentației parțiale extinse din punctul de vedere al etiologiei, complicațiilor multiple și al variantelor terapeutice. Material și metodă de lucru: A fost efectuat un studiu clinico-statistic pe un lot de 60 de pacienți de ambele sexe, cu vârste cuprinse între 30 și 70 de ani, care prezentau diferite tipuri de edentații parțiale restaurate sau nu. Obiectivele urmărite au fost: stabilirea celei mai frecvente cauze a apariției edentației, alegerea tipului de restaurare potrivit situației clinice particulare, refacerea funcțiilor aparatului dento-maxilar și, nu în ultimul rând, stabilirea gradului de acceptare al tratamentului protetic al pacienților luați în studiu. Rezultate. Se exprimă prin diagrame rezultatele privind frecvența edentației parțiale extinse în funcție de anumiți parametri. În încheiere, se enunță concluziile relevante pentru acest studiu clinico-statistic, edentația parțială având o incidență ridicată în rândul populației, etiologie complexă și complicații care determină reducerea semnificativă a calității vieții pacientului. Concluzii. Edentația parțială extinsă, având o incidență ridicată, motivează interesul pentru studiul reabilitării funcționale și estetice folosind tratamentul implanto-protetic. Am identificat ca factor etiologic principal al edentației parțiale extinse, parodontopatiile cronice, urmate în ordinea influenței de: restaurările protetice incorecte, distrucțiile coronare masive și resturile radiculare, procesele carioase.

## INTRODUCTION

Partial edentation, a subject of prosthetics, is a pathological condition characterized by the absence of one or more periodontal dental units on one or both arches of teeth during the post eruptive period.

The many clinical aspects of edentation have necessitated the classification of different forms depending on the location areas and the number of missing teeth. Extended partial edentation term refers to the absence of 3-4 units that intersect two areas of one dental arch.

The common causes of partial edentation are related to those diseases of the maxillary which require the extraction of the teeth that cannot be saved. In order of importance and frequency of causes we include: complication of tooth decay,

gum disease seriously affecting deep chronic marginal periodontal support, exaggerated dental malpositions that cannot be solved with orthodontic treatment, excessive abrasion, morpho-functional imbalance of ADM resulted in occlusal disharmonies trauma of the frontal region, negligence or indifference of the patient for the dental treatment.

The complications of untreated partial edentation vary from simple forms to some extremely serious which make the treatment very difficult both for the doctor and patient.

The most common complications are: esthetic and phonetic disturbances, masticatory disorders, tooth migration, periodontal disorder, occlusal imbalances that occur consecutively to dental migrations, dental abrasion.

To properly design a treatment plan, it is necessary to

<sup>1</sup>Corresponding author: Dana Dumitra, Bulevardul Corneliu Coposu, Nr. 2-4, Sibiu, România, E-mail: d\_dumitra@yahoo.com, Tel: +40727 370252  
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## CLINICAL ASPECTS

evaluate the overall performance of all elements of the prosthetic field, leading to the prosthetic therapy that can improve the conditions of the future biomechanical-functional prosthesis. The treatment of an enlarged partial edentation is not only to replace the missing teeth, but to restore the biological balance disturbed by the disappearance of several teeth.

If lateral-frontal and lateral-frontal-lateral edentation may still benefit of fixed therapy, connective edentation or end-to-end, mixed edentation put into question whether movable prosthesis therapy is needed: acrylic or skeleton, except for implant-prosthetic treatment.

Many patients do not accept the classical mobilized prosthetic treatment. Therefore, in recent decades, classical prosthetic treatment begins to loose ground to implant supported restorations, whether fixed or movable, as it provides the necessary conditions for the best possible recovery of the functions affected by the loss of teeth without sacrificing additional tooth substance.

### PURPOSE

We chose this subject, because we noticed the large number of partial edentations, which cause complications of the dental apparatus whose gravity is influenced by age, etiology and the individual response of the organism.

Many clinical situations request us to find an effective method of rehabilitation as a comfortable solution for patient. Mobilized denture with special systems and especially the dental implants are, in my opinion, the best treatment at this time.

There is no ideal therapeutic solution; however, the chosen one should be adapted to the clinical situations, convincing the doctor that it is the best in the given context.

### METHODS

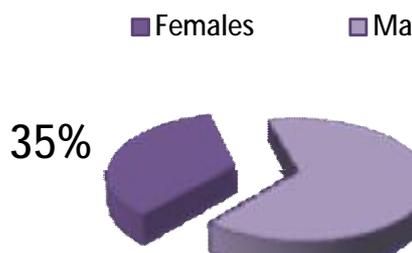
A clinical statistical study was performed on a sample of 60 patients of both genders, aged between 30 and 70 years old, who presented different types of partial edentation, restored or not. The objectives were to: determine the most frequent cause of edentation, choose the best restoration according to the particular clinical situation, re-establish the function of the dental apparatus, and to determine the patients' acceptance of the prosthetic treatment.

### RESULTS

**Table no. 1. The frequency of extended partial edentation by gender**

Cases	Males	Females
60	39	21
100%	65%	35%

**Figure no. 1. The frequency of extended partial edentation by gender**

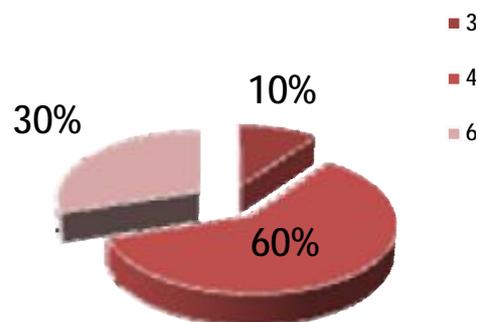


The majority of the people who received prosthetic treatment were men.

**Table no. 2. Frequency of extended partial edentation by age groups**

Cases	Age		
	30- 45 years old	46- 60 years old	61-70 years old
100%	10%	60%	30%
60	6	36	18
100%	10%	60%	30%

**Figure no. 2. Frequency of extended partial edentation by age groups**

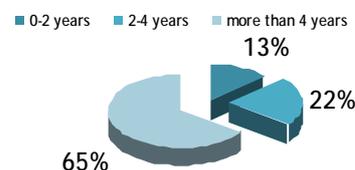


Most patients with extended partial edentation were in the age group between 46-60 years old.

**Table no. 3. The age of the edentation**

Cases	Age		
60	0-2 years	2-4 years	Over 4years
	8	13	39

**Figure no. 3. The age of the edentation**

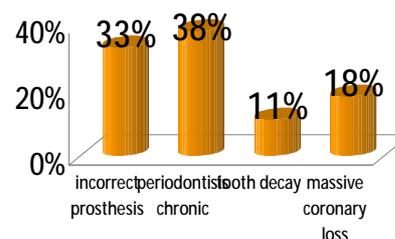


We notice the high incidence of patients with edentations older than four years.

**Table no. 4. Frequency of edentation by the cause of tooth extraction**

Cases	Incorrect prosthesis	Chronic periodontitis	Tooth decay	Massive coronary loss
60	20	23	7	10
100%	33%	38%	11%	18%

**Figure no. 4. Frequency of edentation by the cause of tooth extraction**



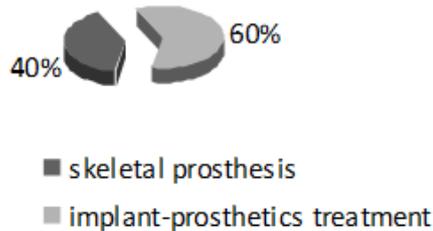
## CLINICAL ASPECTS

Chronic periodontitis was the main cause of dental extractions represented by a percentage of 38% of cases, followed by incorrect prosthetic restorations.

**Table no. 5. Treatment chosen for the restoration of edentation**

Cases	Skeletal prosthesis	Implant-prosthetics treatment
60	24	36
100%	40%	60%

**Figure no. 5. Treatment chosen for the restoration of edentation**

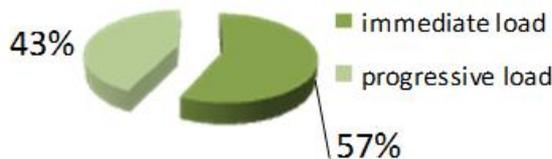


In most cases the chosen treatment was represented by dental implants.

**Table no. 6. Type of implants loading chosen for restoration of frontal edentations**

Cases	Immediate load	Progressive load
7	4	3
100%	57%	43%

**Figure no. 6. Type of implants loading chosen for restoration of frontal edentations**



In 57% of the cases we used immediate loading prosthesis.

**Table no. 7. The type of treatment chosen for terminal edentations**

Cases	Dental implants	Mobilized denture
36	23	13
100%	64%	36%

**Figure no. The type of treatment chosen for terminal edentations**



Terminal edentations were solved in most cases, 64%, with dental implants.

### CONCLUSIONS

1. The high incidence of extended partial edentation motivates our interest in the study of functional and esthetic rehabilitation using dental implants.
2. Extended partial edentation is more frequent in the male gender because of the social behaviour and esthetic reservations in comparison with females.
3. We observed a high incidence of extended partial edentation in the 46-60 years old group, which can be explained by the presence of age-specific diseases.
4. We identified as the major etiological factor of edentation the chronic gum disease followed in order of influence by: incorrect prosthetic restorations, root destruction and massive coronary debris, tooth decays.
5. Most patients included in the study presented edentations older than four years.
6. The algorithm of choice of an optimal therapeutic plan focused on the following three aspects: fairness concept, execution facility, cost of the treatment.
7. Most of the patients chose dental implants for the restoration of the edentations.
8. Analysis of prognosis and success rate over three years with implant-prosthetic restorations, forces us to consider the continuity of the study over a longer time.

### REFERENCES

1. Misch CE. The Effect of Bruxism on Treatment Planning for Dental Implants, *Dentistry Today*, September 2002;21(9):76-81.
2. Misch CE. *Contemporary Implant Dentistry*, ed. 2, St. Louis, Mosby; 1997.
3. Nicolae V. *Elemente de implantologie orală*, Editura Universității Lucian Blaga, Sibiu; 2005.
4. Nicolae V, Covaci L. *Tratamentul implanto-protetic al edentațiilor parțiale mandibulare*. Editura Universității Lucian Blaga Sibiu; 2007.
5. Misch CE, Palattella A, Bruxism and its Effect on Implant Treatment Plans, *International Magazine of Oral Implantology* 2002;3(2):6-16.
6. Misch CE. *Principles for Screw Retained Prostheses in Contemporary Implant Dentistry*, St. Louis, Mosby; 1993. p. 669-685.
7. Nicolae V, Covaci L. *Abordări chirurgicale în implantologia orală*, Editura Universității Lucian Blaga, Sibiu; 2009.
8. Nicolae V. *Proteza scheletată în reabilitarea edentației parțiale*, Editura Techno Media, Sibiu; 2009.