

PROGNOSIS OF FIXED PROSTHETIC RESTORATION

PREDVIĐANJA VEZANA UZ FIKSNE PROTETSKE NADOKNADE

STANCIU, Liana; GHERGIC, Doina; FRĂȚILĂ, Anca & SABĂU, Mariana

Abstract: *The specialty publications don't often discuss this subject, although prognosis presents a great importance to the patient, as well as to the dentist. This is established before the treatment in order to know the evolution. Prognosis offers us information about the success of the prosthetic interventions and for how long the functions of the oro-maxillo-facial system will be restored. Dental restorations are curative treatments, for regaining the functions (mastication, esthetics, phonetics). The dentist has to include, concurrently, both curative and necessary interventions for the prophylactic treatment which, together with other factors, participate in obtaining of the prognosis.*

Keywords: *prognosis, prophylactic and curative treatment*

Sažetak: *Stručne publikacije rijetko se bave ovom temom iako je predviđanje tijekom i trajanje liječenja izuzetno važno pacijentu kao i stomatologu. Bitno je odrediti trajanje liječenja kako bi se mogao pratiti postupak liječenja. Predviđanje uključuje informacije o uspjehu protetskih zahvata i u kojem vremenskom razdoblju će funkcija oralno maksio-facijalnog područja biti obnovljena. Stomatološke restauracije su postupci u kojima se obnavljaju funkcije (žvakanja, estetske, fonetske). Stomatolog istovremeno obavlja liječenje i neophodne intervencije profilaktičkog tretmana koji zajedno s ostalim faktorima sudjeluju u predviđanju.*

Ključne riječi: *predviđanje, profilaktičan tretman i liječenje*



Authors' data: Liana **Stanciu**, Assoc. Prof., T. Maiorescu University, Faculty of Dentistry, Bucharest, stanciu_liana@yahoo.com; Doina **Ghergic**, Professor, T. Maiorescu University, Faculty of Dentistry, Bucharest, doinaghergic@yahoo.com; Anca **Fratila**, Lecturer, L. Blaga University, Faculty of Medicine, Sibiu, fratila.anca@yahoo.com; Mariana **Sabău**, Assoc. Prof., L. Blaga University, Faculty of Medicine, Sibiu, alx_sabau@yahoo.com

1. Introduction

Medical journals describe the prognosis before the treatment is undergone so its evolution can be known. The prognosis shows the possible aspects of the disorder after the medical or surgical treatments have been applied. In the field of dental medicine we have to know the evolution so that we can keep and realize functional harmony of the stomatognathic system. After the clinical examination and establishing the treatment plan, the patients ask for evolution assessment [1].

After we let them know the type of prosthesis and price, it might be possible for the patient to ask the following:

- for the restoration of the lateral area, where the mastication takes place, if it might be possible to satisfy this function;
- for the visible front area, if the presence of the prosthesis is noticeable;
- if the phonation is affected by the restoration.

2. Aim and objectives

In generally, the prognostic isn't approached in specialized publications, even though it is of big importance as well for the patient and the dental cabinet where the restorations were made. The scope of the study is to make the dentist aware on prognostic factors contributing to the prosthetic restorations. The analysis of this factors highlight their characteristics and their participation in the evaluation of prognosis with the following objectives: to identify the factors contributing to health deterioration of maxillary dental structures and to establish methods of preventing or eliminating the pathological factors for a favorable prognosis in fixed prosthetic restorations.

3. Material and method

Identification, analysis, the exposure and the logical organization of the factors which participate in evaluating the prognostic was made based on information gathered from specialty literature.

Schematically, shown for understanding the present subject, factors are classified as follows: clinical and biological factors; technical and material factors. These factors do not operate separately, they exist in correlation, with mutual influence.

3.1 The analysis of the participation of the clinical and biological factors to the prognosis assessment

a) The biological value of the teeth which will benefit from prosthetic intervention. Generally vital teeth are preferred for their physical resistance of the crown tissues and the exclusion of the danger of forming an periapical process.

In routine practice devitalization is preferred, before the covering, for the following reasons:

- preventive: the teeth with deep carious lesions: teeth with huge fillings and signs of the pulp disorders;

- prosthetic: assuring the parallelism for the realization and insertion of the prosthetic piece.

Sensitivity of the vital tooth is a sign, for instance when the restoration is not adapted as it should or if a decay is already installed. On other occasions it is a sign that teeth are overstressed due to mechanical occlusal shocks for the position of maximum intercuspation or in the mandible dynamics.

The crown of the non-vital tooth is prone to fracture after being fitted in [2].

b) Crown-root morphology

Large dental crowns are polished and so we obtain a preparation that promotes the retention of the covering prosthesis.

Small crowns do not assure friction or prolonged retention.

Root is the morphological component of every tooth, which together with the periodontal tissues insures retention, resistance and their presence on the arch [3].

c) The morphofunctional and periodontal value of the teeth is determined generally for all the teeth by the length of the roots in axial and transversal plane. For the multiple root teeth it is added the number of the roots and their divergence. The volume and the divergence represent a favorable element for the prognosis.

d) Trophicity state of the superficial and profound periodontium.

Clinical aspects highlighted by retraction, atrophy, congestion, inflammation, accompanied by spontaneous or provoked bleeding, are the signs that impose specific treatment and temporization of the prosthetic intervention [3].

Gum recession of multiple root teeth is a difficult element for a favorable prognosis.

e) Mineralization of the bone tissue, from the level of the alveolar walls (lamina dura) is analyzed together with the dimensions of the periodontal space.

f) The association between the status of the bone, periodontal aspect and clinical and radiological exam is possible to show false or real pockets which are important to the specialist in establishing a prognosis.

g) Resistance to caries or tendencies to caries are important factors, that will not be neglected for the prognosis assessment.

h) Hygiene of the oral cavity, influences or can present promoting causes and determinants for affecting the soft tissues. Hygiene of the oral cavity is an important factor for or against the prognosis.

i) Dental radiography shows a lot of histological and morphological structures that are not accessible to the clinical exam: the status of the bone, the alveolar process, periodontal space, the characteristics of the roots, the periapical area.

The absence of radiography creates situations of uncertainty which are possible to generate complications. The treatment plan and the prognosis depend on the structures observed during radiological examination.

j) The correlation between the edentulous space in mesiodistal plane, number of abutments, dental-periodontal value are quite important criteria for the prognosis of the restoration and the stomatognathic structures and the system itself. For large spaces, the number of abutments should increase.

k) Antagonist teeth that exert occlusal pressure. The variability is analyzed, there are two extremes, natural teeth with abrasion, sign of powerful occlusal contacts or the

existence of a removable partial prosthesis that cannot undergo intense occlusal pressure [4].

l) Morphological aspect of the mobilizing muscles of the mandible, characterized by different dynamic particularities, will be shown and appreciated for the moment of creating the dental restoration in a curative and prophylactic way, taking in consideration the prognosis.

m) Correlation of medical history with the clinical exam is necessary to detect the patients' food habits. If the patient prefers food with a higher or lower consistency. The trituration of harder foods overstresses the periodontium of the abutments and the prosthesis. Mastication and occlusal pressure are correlated with the profession, sex and age.

n) The patient' wish is manifested through care for the maintenance of the prosthetic restoration in order to realize mastication if it is in the lateral area, or the achievement and maintenance of the esthetic aspect in the front area.

o) Occlusal relations, from the centric position with a maximum intercuspation and from the eccentric positions of the mandible.

To conclude, the exam of the occlusal relation is made in two moments: when the patient arrives and asks for treatment and when the dental restoration is ready and needs to be cemented.

The correctness in establishing the static and dynamic occlusal relationship is a important desiderate for longer length of maintaining and using of the prosthetic restoration.

The exam of the occlusal adaptation and the refinements when fixing the prosthetic restoration both participate in gaining a generally favorable prognosis [3][4].

3.2 The analysis of the participation of the technical and material factors in the prognosis assessment

In this manner we may distinguish factors that act in the dentist's office:

a) Preparing dental crowns by polishing conditions the prognosis. The tapered abutments are unfavorable to the prognosis since it is possible to induce pulp death, fracturing and detachment of the prosthesis. The reduced dimensions of the abutments do not assure the retention of the prosthesis. The insufficient preparation of the abutments, convexities on the lateral sides, results into inadaptable transversally and axially crowns [5].

b) The lesions of the marginal periodontium during the preparation of the tooth, followed in the same stage by the impression taking, is one of the causes of inadequately adapted marginally crowns, to which it is added neutralization of the methods for the gingival sulcus eviction. Generally, the covering crowns which are without an adaptation in the cervical area, in transversal or axialplane, are favorable to decay, which represents the cause of an unfavorable prognosis.

c) The impression is an important factor in determining the prognosis through:

- type of material used, presents a lot of physical and chemical characteristics depending on the producer and the preparation conditions.
- the used technique in registering the morphological elements of the dental field. The occlusal form of the future restoration might represent an

unfavorable element for its prognosis and sometimes, for the other components of the incongruous marginally stomatognathic system (antagonist teeth, mobilizing muscles, temporomandibular joint) [6].

Factors that act at the laboratory level are very numerous because they include the whole technological process in making the dental prosthesis. In the laboratory there are many materials used and their physical and chemical structures are totally different as are the preparing techniques. The qualification of the dental technician takes also part in the determining the prognosis, biologically by manuality manifested as talent and seeing sense capable to appreciate and differentiate the forms, dimensions and chromatic shades [7].

The professional competence which has at its basis on the biological factors, study for assimilation of theoretical knowledge, practice, which in the end give the professional experience and thoroughness.

4. Conclusions

1. The prognosis is the result of a complex activity, involving both the dentist and the dental technician, to which we add the properties of the materials used.
2. Knowing the factors that participate and assure the favorable prognosis for the prosthetic treatment is a necessity.
3. The prognosis shows these 2 aspects: the presumptive prognosis established after the clinical and paraclinical investigation and the final prognosis is established after the treatment considering the obtained results.
4. If only one of the factors depicted is not assessed correctly, the prognosis may change unfavorably.

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