STRATEGIES OF COMPLETE ORAL REHABILITATION IN PATIENTS WITH DISFUNCTIONAL SYNDROM OF THE STOMATOGNATE SYSTEM

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Abstract

The complete oral and dental rehabilitation (ROC) or (CODR) requires an advanced understanding level, based on the capacity to prepare and successfully fix the complete strategy for the complex oral rehabilitation had in view.

The method applied was to subject a representative group of patients to the algorithm of diagnosis and clinical solution. The strategies of complete oral rehabilitation applied included surgical-periodontal, implanto-surgical, implanto-prosthetic rehabilitation techniques.

Keywords: complete oral rehabilitation, interdisciplinary clinical approach, modern technologies.

1. INTRODUCTION

The stomatology of the third millenium defines itself by new valencies and dimensions, resulted from the very concepts of diagnosis and treatment, under the influence of both the modern and complex technology now in use and of some newly-emerging psycho-social aspects. Clinical experience shows that some patients suffer from diseases which cannot be treated through simple prothesizing. The life quality of a prosthetized patient who cannot adapt himself to the conventional therapy or is subjected to an incomplete rehabilitation therapy is considerably affected.

Therapeutical complexity requires thorough knowledge from the part of the dentist, on all known stomatological manoeuvres usually recommended, and even more, if considering the multitude of factors involved, so that no medical solution should leave apart an interdisciplinary clinical approach. Such a therapy requires multiple, continued sessions and application of a series of standard strategic methodologies of individualized approach on specific objectives, such as: odontal rehabilitation, elimination of infectious centers; strategies for the rehabilitation of the muco-bone support; skeletal reorganization; rehabilitation through prosthetic means; rehabilitation through orthodontic methods; rehabilitation through implants; maintenance strategies.

2. MATERIALS AND METHOD

Out of a group of 37 subjects (23 men and 14 women) with an average age of 42 years (youngest age: 21, oldest age: 76), with a deviation from the standard of 14.4, who addressed the Clinic of Complete Oral Rehabilitation of “Apollonia” University between 2012-2015 asking for complete oral rehabilitation through both traditional and modern methods, a series of 14 patients (5 women and 9 men) were selected, as representative for their complex pathology and variety of diseases the stomatologist is expected to manage and cure.

The method applied was to subject a representative group of patients to the algorithm of diagnosis and clinical solution. The strategies of complete oral rehabilitation applied included surgical-periodontal, implanto-surgical, implanto-prosthetic rehabilitation techniques [1,2].

The patients were subjected to the protocol of clinical and paraclinical examination for establishing their general and local condition. Additionally, 3D...
radiographies and ATM tomographies were done. In periodontic patients, the clinical situation was recorded by means of periodontogrammes, which permitted to follow the evolution of the disease.

3. RESULTS AND DISCUSSIONS

The results of the clinical examination were correlated, completed and compared with those obtained by paraclinical investigations [3,4]. In Fig. 1 is presented the distribution of patients as a function of age and in Fig. 2 the distribution of patients according to the causes of presentation.

![Fig. 1. Distribution of patients as a function of age](image1)

![Fig. 2. Distribution of patients according to the causes of presentation](image2)

**Diagnosis of the general health condition**

There have been evaluated: the degree of temporal-spatial orientation of the patient, his bio-psycho-social behaviour, his response to verbal and painful stimuli, followed by a general clinical examination of all apparatus and systems, determination of the type of constitution, the psycho-somatic development of the patient, correlated with his biological age. The patients have also obtained a complete biochemical and haematologic bulletin. In Fig. 3 is presented the patients with vertical and transversal asymmetries and in Fig. 4 the percent ratio of clinical signs during ATM examination.

"The clinical diagnosis of the the general health condition controls the magnitude and moment of the intervention, and also choice of the therapeutical plane" (Vasile Burlui).

In Fig. 5 is shown the exam of the oro-facial muscles and of the neighbouring region. Results of NOT-S testing and in Fig. 6 is presented the graphical representation of the modification of mandible’s position versus the cranium.

**The local-regional clinical examination**

![Fig. 3. Patients with vertical and transversal asymmetries](image3)

![Fig. 4. Percent ratio of clinical signs during ATM examination](image4)
Table 1. The study group distribution on edentation classes and jaws

<table>
<thead>
<tr>
<th>Edentation Form</th>
<th>Maxillary</th>
<th></th>
<th>Mandible</th>
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<tr>
<td></td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
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<tr>
<td>Class I Kennedy</td>
<td>2</td>
<td>3</td>
<td>1</td>
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<td>Class II Kennedy</td>
<td>-</td>
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<td>1</td>
<td>4</td>
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<tr>
<td>Class III Kennedy</td>
<td>3</td>
<td>3</td>
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<td>1</td>
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<tr>
<td>Class IV Kennedy</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
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<tr>
<td>ClasasV Kennedy-Applegate</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>1</td>
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<tr>
<td>Class VI Kennedy – Applegate</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total edentation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
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</table>

**Therapeutical strategies**

“The therapeutical strategies represent the practical application of the therapeutical scheme, which involves a succession of interventions meant at rehabilitation through surgical, orthodontic, prosthetic, implantary, etc. methods. The succession of stages the patients have to follow includes subdivided strategies which together build up the strategy of complete oral rehabilitation” (V. Burlui).

No surgical intervention was performed in the absence of a stable general health condition of the patient.

**Strategies for the application of the ethiotropic therapy**

**Objectives:**
- pro-active participation
- elimination of the infectious centers
There followed:
- curettage of the osteitic centers and of the granulation tissue in open field, followed by gingivectomy and modelling gingivo-alveoloplastia, with bone addition
- resorbable membranes made of collagen were applied for bone graft protection
- the flap was immobilized
  The threads were removed 14 days after the intervention [5,6].

Fig. 7. Application of the ethiotropic therapy

For seven patients, the prosthetic-surgical solution, involving mixed prosthesis on implants and transformation of edentation into a pseudo-edentation, were preferred.

Fig. 8. Transformation of total edentation into a pseudo-edentation
Extraction with a flap at 2.1,
- Curettage of the osteitic center and of the granulation tissue,
- alveolar bone plastia and bone addition
- urgent prothesesizing
- frenectomia with frenoplastia of the upper lip

Fig. 9.

Fig. 10. Extractions, curettage in closed field, application of implants, sinus lift

Fig. 11. Digitalized simulation of implants positioning
Strategies of occlusal re-balancing and cranial- mandibulary repositioning

Objective:
- mandibular repositioning and equilibration of the mandibulo-cranial static and dynamic relations through conventional and modern methods.

Technique:
- Registration of the occlusion on the experimental model
- Wax-up realization.
- Checking of the clinical and paraclinical marks.
- Realization of a simulation tray
- Contention through provisional prothesesing
- Application of the final treatment [7,8]

Fig. 12. Occlusal re-balancing and cranial-mandibulary repositioning
3. The finite conjunct devices applied were made of ceramics (zirconium/metal). The patients were asked about their masticatory efficiency, physiognomic improvements, prosthesis hygienization, phonetic function.

4. Key elements:
   - Interdisciplinary approach
   - Minute planning
   - Therapeutical simulation
   - Theoretical support

5. The statistical results provided by the literature of the field indicate a high, quite predictable success ratio of these strategies.

6. The strategy applied in the present investigation proposes a treatment method with no orthognate surgery, which means that an adequate multidisciplinary planning of the intervention is absolutely necessary.

7. The present study outlined that most of the analyzed affections involve a mandibulo-cranial malposition, whose repositioning was successfully performed with prosthetico-surgical means, which demonstrated that a holistic and interdisciplinary approach of such cases is the key for their complete rehabilitation.

8. The whole assembly of therapeutical measures here mentioned may assure a homeostatic equilibrium of the stomatognate system, which appears as the essential element for the success of a complete oral rehabilitation treatment.

9. A good command over the therapeutical principles in force, clinical experience, a complete
and complex diagnosis will grant therapeutical success.

10. The prosthetic-surgical strategy should be supported by alternative therapies, such as balneophysio-therapy, kineto-therapy, drug miorelaxation therapy.

11. The osteo-integrated dental implants have immensely contributed to the success of the strategy, improving the quality of patients life through functional rehabilitation.

To conclude with, success of the complete oral rehabilitation therapy requires a careful interdisciplinary approach, based on a judicious planning and observance of the main biological and mechanical principles.

References