

TOOTH – IMPLANT RESTORATIONS

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Abstract: The tooth-implant restorations in free-end partial edentulism create many biomechanical problems which are generated by the difference of strength between natural teeth and dental implants. In order to compensate this difference of strength, a lot of therapeutic measures are necessary, which are applied either before the dental implant therapy or during the dental implant therapy. This article intends to reveal the principles of making tooth-implant restorations.

Keywords: tooth – implants restorations, implants

Rezumat: Restaurarea edentațiilor prin lucrări protetice cu sprijin mixt ridică o serie de probleme de ordin biomecanic generate de diferența de reziliență dintre dinții naturali și implanturi. Pentru compensarea acestei diferențe de reziliență sunt necesare o serie de măsuri terapeutice instituite atât preimplantar, cât și pe parcursul tratamentului implanto-protetic propriu-zis. Acest articol își propune evidențierea principiilor care trebuie respectate în tratamentul implanto-protetic atunci când se recurge la realizarea unor restaurări cu sprijin mixt.

Cuvinte cheie: protezare mixtă, implanturi

The ideal situation is represented by the accomplishment of certain prosthetic works supported only on implants or only on the natural teeth, but sometimes, it is necessary to include within the prosthetic work, besides implants, certain remaining teeth. (Fig.1, 2).

Fig.1. Terminal edentation with prosthetic restoration-implants exclusively (personnel collection).

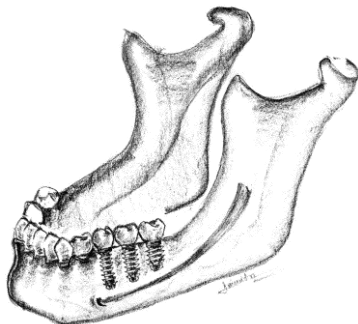
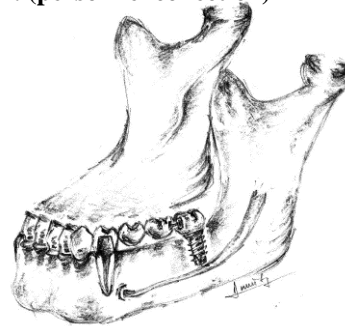


Fig. 2 Terminal edentation with mixed prosthetic restoration. (personnel collection)



This situation is due to:

- Bone insertion impossibility of a sufficient number of implants, due to an inadequate bone offer;
- Impossibility of implants insertion on an adequate distance on natural tooth
- Financial reasons

After solid clinical and paraclinical evaluations, we decide whether to preserve or not the teeth in order to include them into the mixed prosthetic restoration.

In case of a favourable prognosis estimated for a period of time between 5 and 10 years, the teeth will be treated, but it is recommended not to include them in the mixed prosthetic restoration. If it is necessary to include those teeth in prosthetic restoration, one of the two therapeutic methods will be required:

- The accomplishment of a dismountable bridge;
- More adjacent teeth will be united or more implants will be included in the prosthetic work; the connection with the bridge body being made by special devices.

If the favourable prognosis of certain remaining teeth is less than 5 years, those teeth will be extracted.

In the case of the existence of certain remaining roots with undamaged socket, we may try to insert the implants immediately after extraction. In this situation, those roots are removed only in the surgical stage of the implant insertion.

The natural teeth which are going to be included in the prosthetic restoration will be very carefully evaluated, taking into consideration the following aspects:

CLINICAL ASPECTS

- Mobility;
- Odontal state;
- Edgeless prosthetic parallelism;
- Size of the dental crown;
- The relation crown/implant;
- Root form and size;
- Root surface;

The corresponding odontal condition for the teeth inclusion in restoration is represented either by a healthy dental pulp, or by a correct endodontic treatment.

Dental mobility is a very important aspect. It is numbered from 0 to 3+. When teeth are included in the prosthetic work, it is indicated that the natural teeth mobility should be close to zero. The Clinical physiological mobility of the natural teeth included in the restoration is compensated by the implant, bone and by the bridge body.

When the teeth mobility is above zero, there are other therapeutic possibilities:

- additional implants insertion;
- avoiding the inclusion of mobile teeth in the restoration work;
- immobilizing more remaining teeth;
- using elastic materials for the bridge body.

The size of the dental crown contributes to the retention of the restoration through the diameter and height of the prosthetic blunt of the pillar tooth. When the prosthetic space is reduced, the prosthetic blunt will also be shorter, decreasing the retention of the restoration.

The lack of retention of the natural pillar tooth will lead to the decementation of the restoration, to the implant overload, to inadequate hygiene of the prosthetic restoration and the appearance of the pillar tooth decay and of pre-implantitis.

The short blunts require a preparation with parallel walls and with reservation groove and cavities with antirotative role.

There will be inserted adequate implants in number and diameter in order to observe the Ante's law. Also, the bridge body will replace maximum two teeth.

All of these aspects must be analysed in order to increase the chance of success and the long term prognostic of the prosthetic restoration on implants. To illustrate these facts, we present a case where we choose to insert seven implants and we preserved two teeth on the inferior arch, realising a mixed prosthesis by using special devices (fig. 3, 4, 5, 6, 7, 8, 9, 10, 11).

Fig. 3 Clinical aspect of cicatrizing screws and of the teeth blunts. (Archives Dr. Nicolae V.)

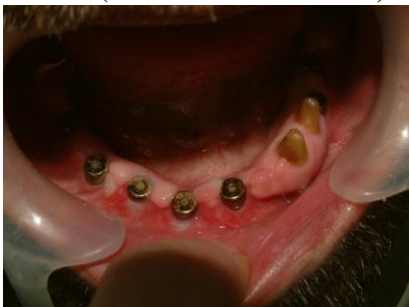


Fig. 4. The assembly of the prosthetic blunts in the oral cavity. (Archives Dr. Nicolae V.)



Fig. 5 si 6. Test with metallic frame. (Archives Dr. Nicolae V.)



Fig. 7, 8, 9. The use of special devices in the achievement of the prosthetic restoration with mixed support. (Archives Dr. Nicolae V.)





Fig. 10, 11. Final aspect of the mixed prosthetic restoration. (Archives Dr. Nicolae V.)



In conclusion, the prosthetic restorations with mixed support registered a series of distinct aspects regarding their execution. These were represented by the bridge body made up of more elastic materials, longer and thinner, with a view to compensate the difference of strength between the implants and the natural teeth. Also, the conception of these restorations varied taking into account the proportion between the number of the implants and the number of the natural teeth included in the prosthesis.

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