THE ORAL REHABILITATION USING METAL-CERAMIC BRIDGES. CASE PRESENTATION

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Abstract: *This article presents an oral rehabilitation clinical case using metal-ceramic bridges. The particularity of the case is that the patient is diagnosed with an impacted canine through X-rays imaging, with lack of space for the tooth, requiring its surgical removal. With the restoration of the physiognomy function we have occlusally remodeled the premolar so that it takes over the masticatory force and substitutes the appearance of the lost canine.*

Cuvinte cheie: *canin, punte, ceramică, reabilitare*

Rezumat: *Articolul prezintă un caz clinic de reabilitare orală cu ajutorul punților metalo-ceramice. Specificitatea cazului constă în faptul că pacientei i se diagnostichează radiografic un canin inclus, cu lipsa spațiului aferent, fiind necesară îndepărtarea chirurgicală a acestuia. Odată cu restabilirea funcției fizionomice am remodelat ocluzal premolarul astfel încât să preia forța masticatorie şi să substituie aspectul caninului pierdut.*

INTRODUCTION

In current dental practice we only find a single dental condition in a patient in extremely rare cases. Most often there is a combination of dental, periodontal, orthodontic or even surgical treatment elements. The oral rehabilitation and restoration of all functions of the stomatognathic system requires interdisciplinary collaboration and the use of several stages of treatment within the same clinical context. [1,4]

Young patients have high expectations from the aesthetic point of view, especially if the prosthetic restoration of the frontal maxillary occurs, and often tend to neglect the disease in the lateral areas although these dental elements have a particularly important masticatory role.

In what follows we will present in detail the stages of oral rehabilitation in such a clinical case with multiple dental problems of form and structure, periodontitis and dental-maxillary anomalies, thus requiring an interdisciplinary treatment.

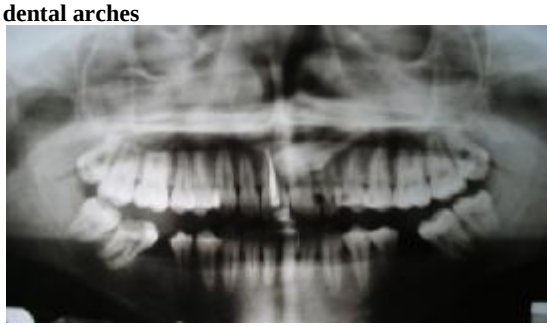
CASE PRESENTATION

The 22 years old patient arrives in our ambulatory care unit because she wants the restoration of the upper central incisor that is marked with noticeable stains. During the endo-oral clinical examination of the patient, in addition to multiple carious foci we found mucous-bacterial plaque deposits, calculus and the absence of the upper left canine from the arch. In support of a full and complex diagnosis and to establish an oral rehabilitation plan, we ordered a panoramic X-ray image [3,5].

The examination of the ortopantomography gives us the following information, as can be seen in Figure 1:

- The upper left canine is impacted in the thick upper jaw with an oblique orientation, the tip surpassing the midline to the right by about 5mm.
- The upper right central incisor has an endodontic filling - this also being the reason for the tooth staining.
- The presence of deep carious processes involving the pulp chamber of the upper right first molar and lower right second molar.
- Medium carious processes in most tooth of the lateral areas.
- The absence from the arch of the lower first molars with complete ossification after extraction and space reduction by the mesialisation of the lower two and three molars.

Figure no. 1. The X-ray image of the impacted canine and of the dental arches



The endo-oral clinical examination together with the analyzed data from the panoramic X-ray image guides us towards an oral rehabilitation treatment plan which will include:

- The hygiene of the oral cavity through scaling and professional brushing.
- The surgical extraction of the impacted canine through a palatal approach, an intervention made in the specialized oral and **maxillofacial** surgery unit. The healing process is captured in Figure 2.
- A teeth whitening treatment by applying a professional gel on the vestibular facets of the teeth until a satisfactory shade is obtained for the patient [2].
- The coronary restoration with a light-cured resin composite, of the same color as the one obtained after the teeth bleaching, on the following teeth:
  - upper second and third molars from the right side
  - upper first and second premolars from the right side
  - second premolar, first, second and third molar from

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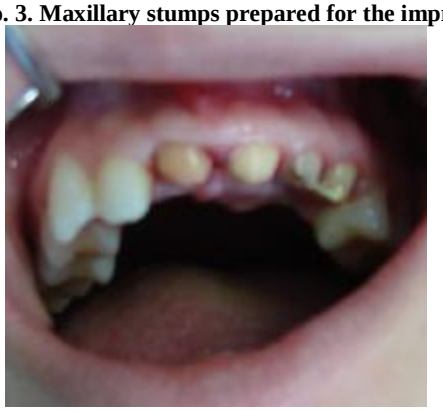
the left side
  - lower third molar, lower first premolar from the right side
  - lower third molar, lower first premolar from the left side
- Due to the big carious processes and coronary destructions the following teeth required complex rehabilitation as follows:
  - The upper right first molar - endodontic treatment and then metal-ceramic microprosthesis
  - The upper left incisors and upper left premolar - endodontic treatment
  - Lower right second molar - endodontic treatment and placing a root canal pin as seen in Figure 2
  - Lower second premolars - endodontic treatment
  - Lower left second molar - endodontic treatment

Figure no. 2. Intraoral clinical aspect: the maxillary interdental sutures can be observed which were applied in order to close the surgical wound after the palatal extraction of the canine

Due to the root canal treatments which were badly needed, the coronary destructions and the stains of the patient, we decided to complete the treatment plan for oral rehabilitation, a plan which included the use of metal-ceramic bridges as follows. Maxillary front bridge consisting of four elements, anchored on the central incisors, lateral left incisor and left first premolar. The prosthetic stumps prepared for impression are shown in Figure 3.

Figure no. 3. Maxillary stumps prepared for the impression



In the absence of the left canine, the item on the premolar will be morphologically shaped as canine, replacing it from the physiognomical point of view but more importantly from the functional point of view. Right mandibular lateral bridge consisting of three elements having as abutments the root canal pin from the second molar and second premolar. Mandibular left lateral bridge consisting of three elements homologous to the one from the right side and having as abutments the second molar and second premolar. The mandibular prosthetic abutments prepared for impression are shown in Figure 4.

Figure no. 4. Mandibular abutments prepared for impression

The metal-ceramic bridges which can be seen in Figures 5 and 6 correspond from the aesthetic and functional point of view to the requirements of the patient. The marginal adaptation is very good and the color is identical to that of the natural teeth after the completition of the whitening treatment.

Figure no. 5. The maxillary bridge cemented in the oral cavity

Figure no. 6. The lateral bridges cemented in the oral cavity

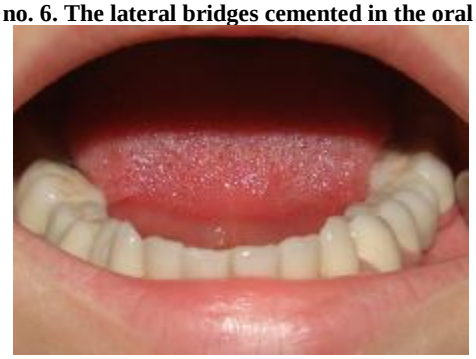
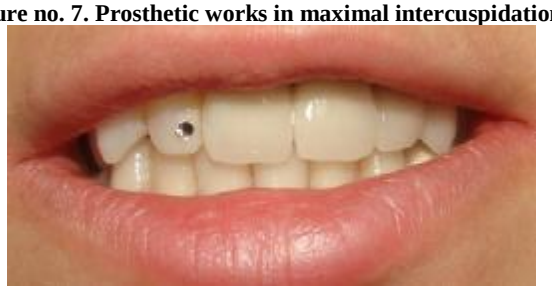


Figure no. 7. Prosthetic works in maximal intercuspidation



The oral rehabilitation takes shape by the restoration of proper intermaxillary relations integrating the dental arches in the stomatognathic system as shown in Figure 7 but also by shaping the crown of the premolar as a canine crown, thus correcting the physiognomy.

The patient declares herself very pleased from the aesthetic point of view and asks for a dental diamond to be placed on the lateral right incisor. The occlusion is stable, the patient observing the improvement of the quality of life after the completion of the treatment. The periodic dental appointments taking place every six months in the last two years showed the proper hygiene of the patient and the integrity of the restored elements without periodontal or temporo-mandibular joint side effects.

CONCLUSIONS

- The impaction of the canine is an anomaly that can easily pass unnoticed until adulthood especially where the space for this tooth is fully closed on the arch
- Whitening treatments enhance the aesthetic aspect obtained throgh crown restorations, the obtained results being spectacular.
- Metal-ceramic dental bridges can morphologically, functionallly and physiognomically correct the crown abnormalities of position, shape or color, being well integrated in the stomatognathic system.
- The oral rehabilitation through dental bridges restors the interarch interlocking thereby increasing the quality of life.
- Patients give more attention to the oral hygiene after the complete and complex oral rehabilitation.

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