

## COMPLEX MAXILLARY AND MANDIBULAR ORAL REHABILITATION USING THE ALL-ON-6 CONCEPT, CASE REPORT.

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### ABSTRACT

In modern dentistry, restoring the functionality and aesthetics of edited jaws presents a continuous challenge. An increasingly popular therapeutic option for such cases is the All-on-6 concept, which involves the use of 6 dental implants to support a fixed prosthesis in the upper or lower jaw. However, there are also patients who cannot benefit from fixed protection for various reasons, such as excessive bone resorption or financial insufficiency.

This article presents the innovative concept of using the All-on-6 concept with a mobilizable prosthesis, which offers significant benefits for patients. The mobilizable prosthesis is based on the same foundation as 6 dental implants but allows the patient to protect himself for oral hygiene and proper cleaning. This approach combines the advantages of fixed prosthesis and mobilizable prosthesis, offering patients good comfort and aesthetics.

**Keywords:** dental implant, all-on-six, immediate prosthetic rehabilitation

### INTRODUCTION

All on Six implantology restoration is a well-established and staged method of beneficial treatment for patients.

Clinical trials of All on Six long-term implant-protein Restorations have shown that this type of restoration can be successful in the long run.[1]

Today, a bright and healthy smile is considered an essential aspect of beauty and personal trust. However, there are many people who face severe dental problems, such as the loss of multiple teeth, which only affects their physical appearance, but also oral functionality and general well-being[3-7].

For many years, traditional solutions to replace missing teeth have involved fixed or partial dental prostheses, as well as individual dental implants. However, these

methods can be expensive, time-consuming, and do not always offer to be desired in terms of natural appearance and functionality.[2]

Over the last decade, a revolutionary concept in modern dentistry has gained more and more popularity and this concept is All-on-6. This advanced technology has been developed to provide patients with a complete and sustainable solution for replacing the teeth of the sticks in a faster and more efficient way.[1.2]

All-on-6 is an innovative procedure that uses six dental implants to support or complete dental arch. These implants are strategically placed in the jaw, providing a stable and secure base for mounting fixed dentures. Compared to other methods, such as individual implants, All-on-6 offers significant benefits in terms of treatment

duration, costs, and following aesthetics.[1-3]

By using advanced technology and quality materials, All-on-6 allows you to recreate a natural smile and full oral functionality. The fixed dental prosthesis mounted on implants is designed to fit perfectly with the patient's facial structure, ensuring impeccable aesthetics and optimal comfort.[1-3]

In addition to outstanding visuals, All-on-6 also offers outstanding functionality. Patients who opt for this procedure have improved masticatory capacity, a more stable temporomandibular joint, and clearer speech. This positively impacts the patient's quality of life and personal confidence.[2,3]

## MATERIAL AND METHOD

A 36-year-old patient presents himself in the dental clinic for oral rehabilitation, the patient's wishes are special according to the oral clinical situation of the dental arches. In this approach for oral rehabilitation, the clinical examination was performed and study models, dental radiographs ( CBCT dental tomography, orthopantomography ), study models were used, and special implant equipment and kits. Implantation was performed immediately after dental extractions and once past 6-8 months of complete healing, in which there was osteointegration of implants ( except for the 1.5 in which the healing screw ) was subsequently inserted, the definitive fingerprints were made following the functional fingerprint, and then the models made of extra hard plaster type IV were made.

In the jaw, given the problem related to implant 1.5, it was decided to make a cast bar with the insertion of attachments for the realization of a removable prosthesis in composite resin, without the presence of the palate.

Inferior, given the stability of the implants, it was decided to make a prosthesis screwed into the composite resin, using MUA. Laser melting structure with tower soldering.

## RESULTS AND DISCUSSION

The All-on-6 concept is a technique used in dental implantology to replace absent or damaged teeth on a dental arch with 6 dental implants and fixed protection on implants. This technique has some advantages and disadvantages, take care of yourself below:

*Advantages of the All-on-6 concept:*

Stability and functionality established: By using 6 dental implants, the fixed prosthesis on implants is safely supported and provides excellent stability compared to other techniques that use fewer implants. This allows the patient to chew and speak normally and enjoy the full functionality of the teeth.

Less invasive technique: The All-on-6 concept in many cases avoids bone growth or sinus lift procedures, as implants are placed in areas with adequate bone. This reduces the need for additional surgery and healing time.

Quick Restoration: Due to the good stabilization offered by dental implants, a fixed prosthesis on implants can be attached almost immediately after implant placement. Thus, the patient can quickly benefit from a functional and aesthetic tooth, without having to wait long to heal.

Good aesthetic results: The All-on-6 technique allows the realization of personalized dentures, which fit perfectly with the shape of the patient's face and smile line. Dental implants also help maintain the jaw bone and prevent bone resorption, which contributes to a more pleasant long-term aesthetic aspect.

*Disadvantages of the All-on-6 concept:*

Anatomical limitations: The All-on-6 technique requires a sufficient amount of bone available in the areas where the implants are placed. If the patient has a significant bone resorption or a weak bone structure, it may be considered an inappropriate candidate for this technique. In such cases, other treatment options may be required, such as bone augmentation or sinus lift.[6, 8]

**Surgical risks:** Like any surgical procedure, the placement of dental implants involves certain risks, such as infection, excessive bleeding, and nerve or jaw sinus damage. However, the risks are minimal when the procedure is performed by an experimental implantologist.[9,10]

**Results may vary:** The long-term success of dental implants depends on several factors, including proper oral care and compliance with medical instructions. In some cases, complications may occur, such as loss or weakening of implants, requiring repair or recovery. **Need for regular maintenance:** Fixed prosthesis on implants requires rigorous oral care and regular visits to the dentist to ensure that he is kept in good health. It is important to avoid problems such as gingival inflammation or infections that can affect the integrity of implants.[9]

It is important for the patient to talk to the dentist and consider all available options before deciding on the All-on-6 concept or other tooth replacement techniques. Each patient has individual needs and circumstances, and the doctor can provide the best recommendation depending on the specific situation.[11-13]

The All-on-6 concept is a surgical technique used in dental implantology to completely restore the edentation of a dental arch with the help of dental implants and a fixed prosthesis. In this concept, 6 dental implants are provided to support or fixed prosthesis that replaces all of them in an archway.[13,14]

#### *The quality of the mobilizable prosthesis in the All-on-6 concept*

The quality of the mobilizable prosthesis in the All-on-6 concept varies depending on several factors can, including the material from which it is made protected and the techniques and technologies used in the dental laboratory for its realization.[13-16]

Materials for mobilizable prostheses may include Alice resins, metal-acrylate combinations, or ceramic materials. These

materials can influence the strength, aesthetics, and comfort of the prosthesis. Mobilized prostheses can be made by hand or using CAD / CAM technology ( Computer-Aided Design / Computer-Aided Manufacturing ), which ensures accuracy and minimal adjustments.[13-16]

The quality of the mobilizable prosthesis can also be assessed by quantitative measurements, such as the thickness and uniformity of the coating, the accuracy of the adaptation of the prosthesis on implants and gums, as well as by subject evaluations.[17-22]

#### *Immediately All-on-6 over prosthetic implants performed superior and lower.*

In the first stage, we performed a clinical examination of the treated patient, to check her dental condition by evaluating the subsequent prosthesis.

The patient presented a metal-ceramic bridge at the level of the upper frontal group (Fig.1), two implants in dial 2 that no longer had stability due to infection, as well as at the level of dial 3 and 4., covered with metallic ceramic, splint at the level of the lower incisors. (Fig.2 and 3).



Figure 1



Figure 2



Figure 3

We performed an overview ( Fig.4 ) and a CT ( Fig.5 and 6 ) for bone level assessment and correct implant measurement, the patient performed blood tests for various controls to perform conscious surgery. sedation given his fear.



Figure 4

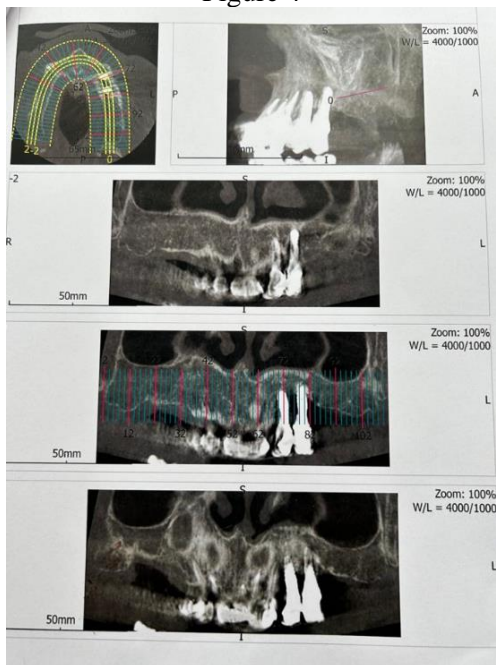


Figure 5

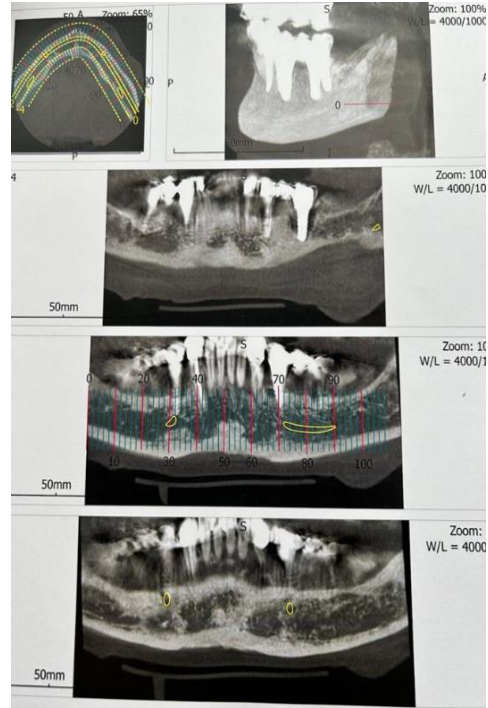


Figure 6

Assembly of models once developed in the articulator, for assessing the correct vertical dimension and for making subsequent prostheses. (Fig.7, 8 and 9)



Figure 7



Figure 8



Figure 9



Figure 11



Figure 12



Figure 13

Operation and execution planning, tooth extraction and implants present, infection removal, total remediation, synthetic bone grafting, and insertion of 6 higher implants ( Fig.10, 11, and 12 ) and 6 lower ( Fig.13 ). The operation was performed under conscious sedation.

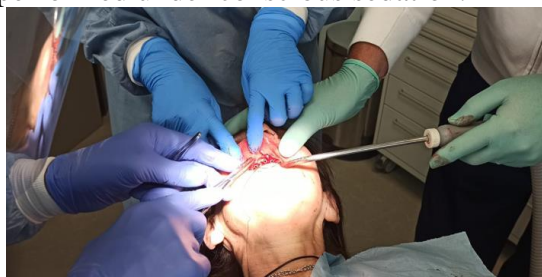


Figure 10

After the test and occlusal check of a correct vertical dimension was performed, the revestment with Kerr F.I.T.T was performed, given its ability to condition the mucous membranes without producing pressure, allowing mucous membranes to heal in the most correct way.

After 15 days the meshes were removed and the lining ( Fig.14 and 15 ) was again made.



Figure 14



Figure 15

Once upon a time, 6-8 months of complete healing occurred, in which osteointegration of implants ( occurred except for the 1.5 in which the healing screw ) was subsequently inserted, the definitive fingerprints were taken using two individual fingerprint boxes, with subsequent casting in extra strong type IV plaster.

Above, given the problem with implant 1.5, it was decided to make a cast bar with the insertion of attachments for the realization of a removable prosthesis in composite resin, without the presence of the palace. ( Fig.16 )

Inferior, given the stability of the implants, it was decided to make a prosthesis screwed into the composite resin, using MUA ( Fig.17 ). Laser melting structure with tower soldering ( Fig.18 )

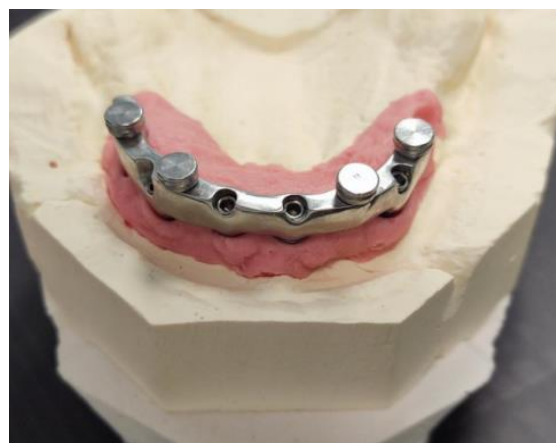


Figure 16



Figure 17



Figure 18

The structures were tested in the oral cavity, to assess their accuracy and stability, by checking the tooth matching test, making changes resulting from the provisional.

Once performed, the gums were modeled into the wax with subsequent personalization of the composite teeth, and

a micro-stratification of the enamels was performed ( Fig.19 ).

Resin injection templates were prepared using the Vertysystem, above the screwed structure and on the upper bar structure, after being sandblasted and treated with primer, a pink photopolymerizable opaque ( Fig. 20 ), and subsequent injection ( Fig.21 ).



Figure 19



Figure 20



Figure 21

Once finished and polished, an attempt was made to check their occlusion and various junctions, an overall control

view was also performed to check the coupling of structures on the respective implants (Fig.22). Work completed, seven days after delivery to check its condition (Fig.23-24-25).



Figure 22



Figure 23



Figure 24



Figure 25

### Conclusions

The All-on-6 concept in dental implantology developed an effective and predictable solution for the complete replacement of teeth in a dental arch. In general, conclusions on the All-on-6 system may include the following:

**Stability and resistance:** The use of 6 dental implants to support the fixed prosthesis in the All-on-6 system ensures good stability and resistance of the

prosthesis. This allows patients to chew and speak without discomfort or problems.

**Reducing the need for complex procedures:** The All-on-6 system can provide a simpler and less invasive alternative to complex surgical techniques, such as complete or sinus graphs. The low number of implants required reduces the time and costs associated with treatment.

**Satisfactory aesthetic results:** The fixed prosthesis used in the All-on-6 system can be designed to provide natural aesthetic results. The material and color of the prosthesis are chosen according to the harmonization with the rest of the teeth and the shape of the patient's face.

**Reducing the healing process:** The All-on-6 system can contribute to a faster and more comfortable recovery compared to other techniques. The fixed prosthesis can be installed immediately after the implants are placed, thus reducing the healing period and the period in which the patient is without teeth

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