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# THE ADVANTAGE OF THE ALL-ON-SIX AND ALL-ON-EIGHT TECHNIQUE COMPARED TO THE ALL-ON-FOUR TECHNIQUE

**Marius Constantin Moraru[1]*, Catalin Mihai Buzduga[2]*, Irina Luciana Gurzu[3]*, Vasile-Deniss Mereuta[1]*, Oana Elena Ciurcanu[5]*, Mihail Balan[5]*, Edlibi Al Hage Walid[6]*, Laura Iulia Bozomitu[7]*, Alin-Horatiu Nedelcu[1]*, Mihaela Mitrea[1]***

[1] "Grigore T.Popa" University of Medicine and Pharmacy of Iasi, Romania, Faculty of Medicine, Department of Morphological Science I
[2] "Grigore T.Popa" University of Medicine and Pharmacy of Iasi, Romania, Faculty of Medicine, Department of Endocrinology
[3] "Grigore T.Popa" University of Medicine and Pharmacy of Iasi, Romania, Faculty of Medicine, Department of Preventive Medicine and Interdisciplinarity
[4] "Grigore T.Popa" University of Medicine and Pharmacy of Iasi, Romania, Faculty of Medicine, Department of Mother and Child
[5] "Grigore T.Popa" University of Medicine and Pharmacy of Iasi, Romania, Faculty of Dental Medicine, Surgical Department
[6] "Grigore T.Popa" University of Medicine and Pharmacy of Iasi, Romania, Faculty of Dental Medicine, Department of Prostheses Technology
[7] "Grigore T.Popa" University of Medicine and Pharmacy of Iasi, Romania, Faculty of Medicine, Department of Gastroenterology, Hospital ,,Sfanta Maria,, Iasi

*Corresponding authors: Oana Elena Ciurcanu: oana.ciurcanu@umfiasi.ro, Irina Luciana Gurzu: ilgurzu@gmail.com

*All authors have the same contribution

## Abstract

Edentulism is a prevalent oral health issue that has a detrimental social and psychological impact on patients 'quality of life. The treatment option adopted has a significant impact on the level of quality with the goal can be achieved. For edentulous patients, implant-supported fixed restorations are a well-established treatment modality. Implant dentistry philosophies and procedures have evolved and changed over the time to give esthetics and functional outcomes. Immediate loading has various advantages over traditional loading without sacrificing the quality of the output. An immediate fixed provisional promotes a high level of patient satisfaction with respect to esthetics, phonetics, mastication and psychological comfort, enabling patients to return to their normal routine and maintain quality of life within a short period of time. Without question, the optimal solution for any edentulous patient from whom it is still clinically viable to place implants is all-on-X dental implant solution. Whether All-on-four All-on-five, All-on-six or any variation of a full implant supported design, there is a best option for quality of life, long term durability, bone maintenance, health improvement and frankly happiness.

**Key words:** full-arch rehabilitation, implant supported prosthesis, All-on-four, All-on-six, All-on-eight rehabilitation

## INTRODUCTION

The immediate functional loading of implant-supported fixed full-arch prostheses can today represent a predictable solution for the rehabilitation edentulous patients, even in the case of implant placement in fresh post-extraction sockets [1, 2, 3]. Such procedures as immediate prosthetic loading and immediate placement of implants in fresh extraction sockets are highly appreciated by patients, because they reduce the invasiveness and number of surgical and prosthetic sessions as well as the length of time needed for treatment [4, 5, 6].

However, the immediate placement of implants in post-extraction sockets and



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their immediate functionalization in a complete-arch reconstruction represent a serious challenge for clinicians. Surgically, in fact, clinicians must be able to mentally visualize the future prosthetic rehabilitation and consequently, the ideal position and axis of implant insertion, in a rather large field such as that of the edentulous maxilla or mandible, this can be particularly complex [6, 7, 8, 9].

Implant rehabilitation of full-arch maxillary edentulism has undergone significant changes since the concept of osseointegration was first introduced. Controversy over the ideal number of implants, axial versus angled implant placement and grafting versus graftless treatment modalities have been subjects of continuous debate and evolution [10, 11]. Implant supported full-arch rehabilitation of the maxilla was originally thought to be more difficult than its mandibular counterpart due to lower overall bone density [10, 12, 13, 14].

The foundation for any implant supported full-arch rehabilitation is the underlying bone. The dilemma faced by most surgeons is whether to treat this residual bone in an additive fashion through bone augmentation or a graftless fashion utilizing angles implants secured in residual bone. Advocates for additive treatment attempt to procure the bone volume necessary for implant support through horizontal and vertical augmentation techniques. Graftless approaches seek to offer full-arch implant support through creative utilization of angles implants in existing native bone [10, 15, 16, and 17].

Today, maxillary all-on-four is a common treatment modality utilized by clinicians all over treatment modality utilized by clinicians all over the word for immediate full-arch rehabilitation. The technique evolved as a graftless solution which sought to reduce treatment time and avoid complication associated with bone grafting. Potential bone grafting complication include increased cost, increase treatment time, donor site morbidity, significant limitations imposed by chronic systemic medical conditions and unpredictable reduction in bone graft volume as a result of resorption [10, 18, 19, 20].

Titled implants were proposed to avoid anatomic structures while achieving sufficient biomechanical support. By tilting implants, dense cortical bone of the natural maxillofacial buttresses could be engages even in cases of severe maxillary atrophy. Theoretical advantages of tilting implants included: avoidance of anatomic structures, longer tilted implants could be placed in cases of vertical bone grafting; bi-cortical stabilization can be more easily achieved. Longer tilted implants make residual cortical bone more accessible resulting in greater primary stability, angled implants provided secondary resistance to vertical displacement by virtue of their non-axial, oblique position in the arch form which is perpendicular to occlusal forces. This stabilization is separate from insertional torque and is only enhanced by cross-arch stabilization, distal cantilevers are minimized when a more posterior emerge of distal implants is achieved resulting in greater biomechanical stability, anteroposterior spread is enhanced, an alternative treatment option for patients with systemic conditions which may render them poor candidates for bone grafting [10, 21, 22, 23].

Mandibular All-on-four is a common treatment modality used by



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clinicians all over the word for immediate, full-arch rehabilitation. This technique evolved as a grafting solution, which sought to reduce treatment time and avoid complications associated with bone grafting and nerve lateralization [24, 25, and 26].

Tilting posterior implants over the mental foramen increased the anteroposterior spread and decreases the length of the cantilever. Studies emerged supporting the use of tilted implants as a solution [24, 27, and 28].

Because of graftless implant placement and immediate loading, the All-on-four technique is very successfully being performed by many dentists and has gained high popularity among implant dentists as well as patients. The only limitation with this technique is that prosthesis with only limited number of teeth (10-12 units) can be fixed over these four implants. Further, the loss of any one implants reverts the entire procedure to the initial stage. To avoid such problems and also for the patients who express the desire for a 14-unit prosthesis, two more implants can be inserted posterior wall of the sinus in the maxillary tuberosity and tilted anteriorly at 45 degree to minimize the length of the unsupported bridge framework between two distal implants. The severely resorbed posterior maxilla with a large volume of posterior expansion of the sinus often does not leave enough bone volume in the tuberosity region to place an implant of an adequate size. In such cases, the implant inserted in the tuberosity with the apex of the implant at the junction of the pyramid process of the palatine bone and the pterygoid process of the sphenoid bone. The implant placement in the tuberosity with its apex engaging the medial pterygoid process of sphenoid bone is the most preferred option because it allows the multicotical engagement of the implant to achieve adequate initial stability for the implant [29, 30, 31, and 32].

To perform the All-on-six procedure in the mandible, the two straight implants should be inserted usually at the first second molar site but if inadequate ridge height above the mandibular canal does not allow placement of implants in the molar region. Then the short the wide implant can be inserted at the angle of the mandible tilted anteriorly at 30-40 degree [33, 34, and 35].

Whether All-on-four, All-on-five, All-on-six or any variation of a full arch implant supported design, there is the best option for quality of live, long term durability, bone maintenance, health improvement, perfunctory improvement and frankly happiness.

## MATERIAL AND METHODS

This retrospective study took place between June and November 2021 in a private dental office. A number of 3 patients (2 men and one women) between 30-57 years of age presented themselves at the dental private office complaining of problems with mastication, physiognomy and the persistence of a bad smell in the mouth after tooth brushing. All three patients received Fast@Fix immediate loading implants from INNO through the All-on-eight technique in the maxilla and through the All-on-five, All-on-six and All-on- seven techniques in the mandible. This study includes 26 implants, of which 8 for physiognomic and functional restoration of the maxillary arch and 18 for physiognomic and functional restoration of the maxillary arch and 18 for physiognomic and functional restoration of the mandibular arch.



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Two of the patients included in the study received temporary metal-ceramic bridge and the third patient will receive it in a future session. More than 6 months after implantation, patients will receive the definitive metal-ceramic bridge.

The patients included in this study had teeth with hopeless prognosis. Prognosis for the non-extracted teeth was good to fair. Periodontal treatment, including surgical and non-surgical, were done on these teeth. The patients with a hopeless prognosis and bad oral hygiene went through a gross oral debridement one week before the surgery to avoid possible contamination during the surgery to avoid a possible contamination during teh surgery.

This clinical study adheres to the principle described by the Declaration of Helsinki that revised in 2013 for research involving human participants and all patients signed an informed consent.

Patients who were treated with this concept had to have the desire and the indication for an implant-supported full-arch prosthesis and concerns regarding bone-grafting procedures during a specific time interval at the clinic. This time interval was chosen so as to include the very first patient who received this treatment and all consecutive patients treated in the same way up to a given date which allowed for the collection of at least 24 month of follow-up data for the orthopantomography (OPG) evaluation. They had to be physically and psychologically capable of undergoing conventional implant surgery. The patients treated were in need of full-arch rehabilitation and presented a bone situation amenable to the placement of at least four implants. The minimum bone width and height were required at least 4 mm and 8 me in each patient, respectively. Exclusion criteria were active infection at the intended sites of implant placement. Chemotherapy or radiotherapy within the 12 months before surgery, uncontrolled diabetes or hematologic disease.

Radiographic screening was performed using OPG and cone beam computer tomography (CBCT). A careful clinical examination of the patients was peformed assesing jaw size and relations, bone volume and occlusal relations.

All patients underwent the same surgical procedure following the Fast@Fixed protocol INNO implants (Cowellmedi Corporation). Extraction of teeth and smoothing of bony surface was peformed if required, before implanting four to six dental implants. Implants in the premolar region were inserted with distal angulation to avoid sinus floor augmentation. In the premolar region of the mandible, implants were inserted with distal angulation to avoid damage to the mental nerve. Only implants with sufficient primary stability can be used for this protocol.

The surgical procedures were performed under local anesthesia which comprise articaine hydrochloride and epinephrine (0,012 mg Safoni-Aventis Deutchland GmbH, Germany). Antibiotics Augmentin (1 gr) was given twice daily on the day before surgery and then daily for 7 days. Anti-inflammatory medication Ibuprofen (400 mg) was given postoperatively starting on the day of surgery. Following the extraction of hopeless teeth any sharp edges were smoothed and all sockets debrided before implant placement.

The drillings were performed using a 3D-planned surgical template with different metal sleeves corresponding to the diameter of the drills. Implants were inserted torque



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controlled under vision without the surgical template. Primary implant stability was assessed immediately following implant insertion. Definitive INNO abutments were attached to the implants. The abutments screws were tightened with a torque of 25 N cm. On these abutments, impression coping for closed trays were seated and an impression and a provisional inter-jaw relationship recording with a silicone were performed.

After cast making, temporary resin prostheses using a composite vennering system were prepared in the laboratory. These temporary restorations were perforated in six, seven, eight implant regions. After the temporary prosthetic titanium cylinders were attached on the abutments and the resin superstructures were placed on the abutments and the resin superstructures were placed over the cylinders, the superstructure perforation were filled with self-curing resin. The superstructure was removed, completed with and relined. The provisional restoration was inserted, the screw holes were sealed and the denture was adjusted on the occlusal plane. All provisonal prostheses were inserted on the same day of implant insertion. With the provisional restoration, no further distal tooth was replaced than under which the distal implant was positioned. Therefore, the distal cantilevel extensions of the provisional prosthesis have exceeded the width of a half molar. It is well known that the dental prosthesis made by PMMA has the advantage of the same color with the teeth and the gingival tissue.

Six months post-surgery, the temporary restorations will be removed for the first time, the implant stability quotient and periotest values will be measures and the final prosthetic protocol will be performed if all implants will be osseointegrated.

An implant was considered as successful if it fulfilled its function without pain or discomfort or clinically detectable mobility and if no peri-implant radiolucency or peri-implant infection was detectable.

## RESULTS

A number of 26 implants were placed in the 3 patients included in this study (2 men and a woman) aged between 30-57 years to be able to restore the integrity of the maxillary and mandibular arch as well as the functions of mastication, swallowing and physiognomy. All 3 patients had living and working conditions favorable to the treatment.

The first patient is a 57-year-old NR woman who presented herself in the dental office complaining of mastication, swallowing, physiognomic problems and fetid breath as a result of chronic marginal periodontonpathy grade 3 through 4, advanced bone resorption, multiple non-respected treatments, iatrogenic and occlusal trauma (fig.1). Later a CBCT examination was performed to see how far from the alveolar ridge the mandibular canal is to avoid damage to the vascular-nerve bundle during implantation (fig.2) as well as in the maxilla where the same clinical aspect as in the mandible is observed, chronic marginal periodontonpathy grade 3 to 4, advanced bone resorption, incorrect performed prosthetic treatment (fig.3).

In the next step, the extractions of all compromised teeth were performed, keeping only 37 on the arch in order to



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maintain the correct vertical occlusion dimension (VDO). After the extractions were performed, the post-extractional alveoli were filled with Gen-Os (OsteoBiol) by Tecnoss and Apatos (OsteoBiol) by Tecnoss because the remaining alveolar ridge was resorbed and narow. In the same session, the 6 implants were inserted following the all-on-six Fast@Fix protocol from INNO (fig.4).

In the next stage, healing abutments were apllied to the patient (fig.5).

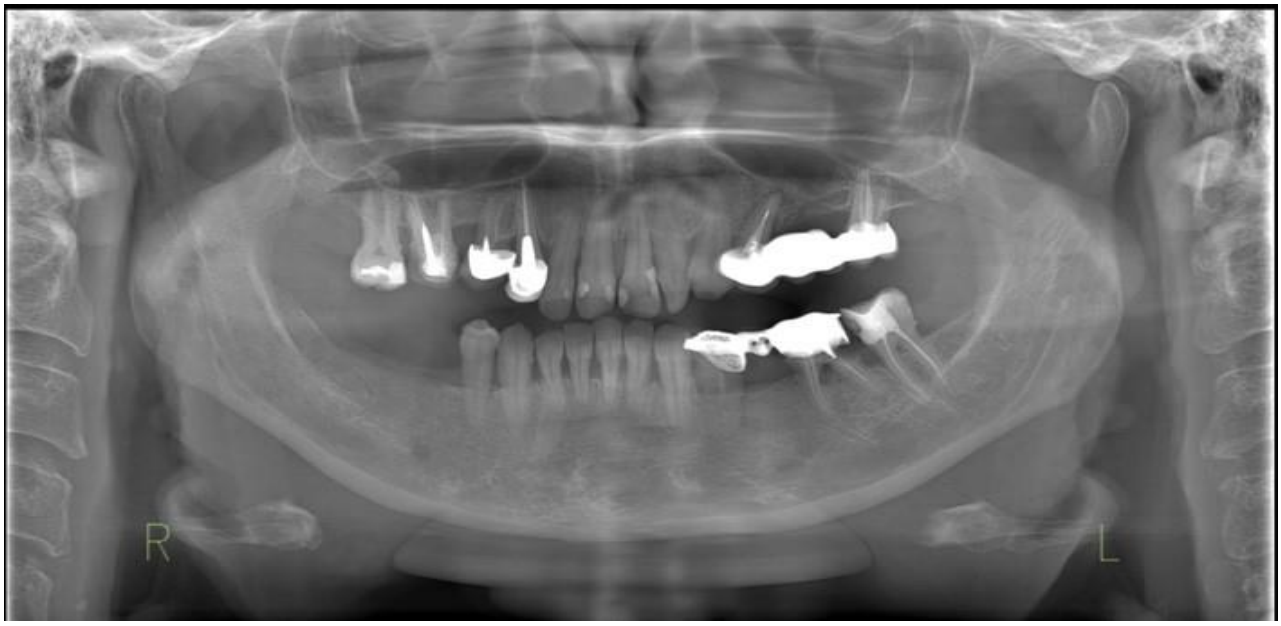


Fig.1. Initial OPG-peridontopathy grade 3 to 4 located at level 33-45

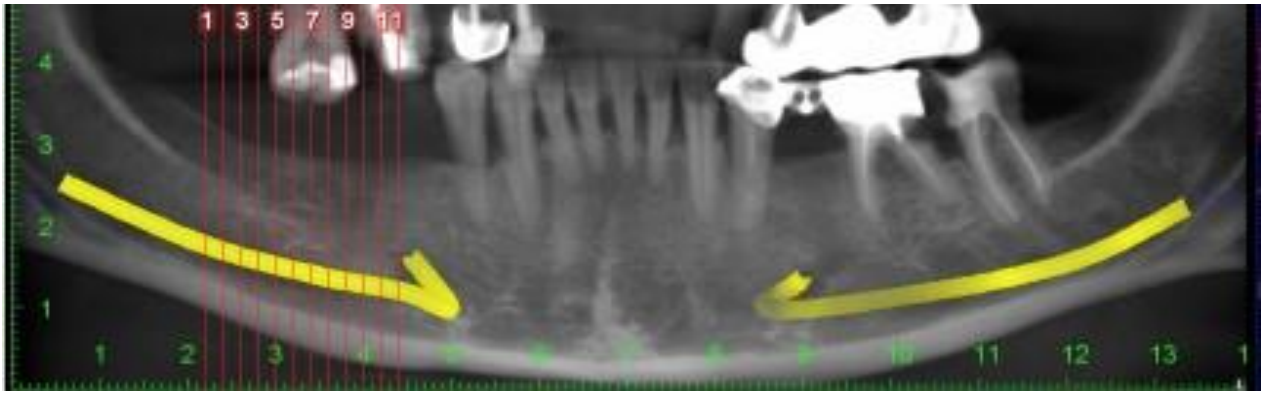


Fig.2. Initial CBCT-the appearance of the mandibular canal at a distance from the alveolar ridge



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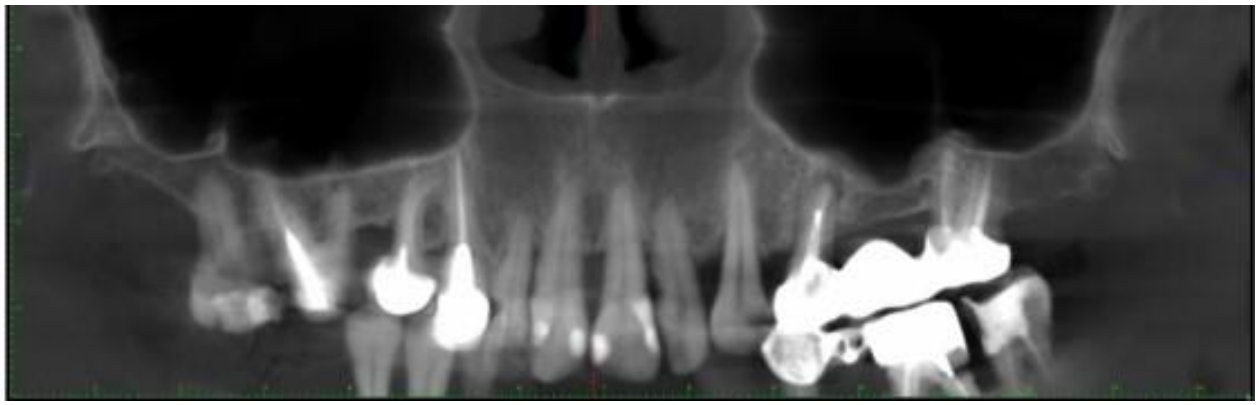

Fig.3. Initial CBCT- periodontonpathy grade 3 to 4 located at the level of quadrants 1 and 2

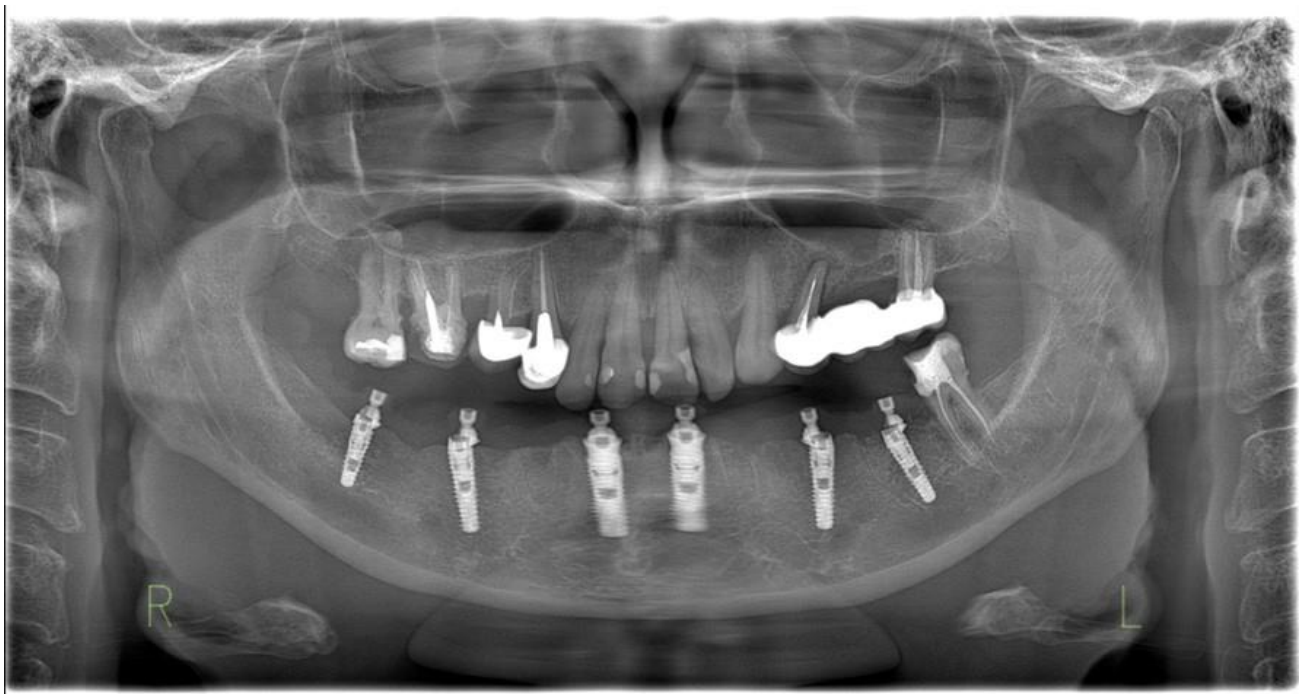


Fig.4. Radiologic appearance after the insertion of the 6 mandibular implants



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Fig.5. Six implant placed with healing abutments

At the next appointment, the healing abutments are removed; appropriate impression copings are selected and fitted. These copings were splinted together intraorally to provide greater rigidity and possibly greater accuracy. The open tray is tried in, the impression copyngs should emerge level with the window. This permits easy removal of the impression copings, while ensuring that the copings are supported by sufficient impression material. The window sealed with wax. An impression is taken in the open tray with a silicone impression material. The tips of the impression copings should be felt through the wax covering the window. Once the impression has set, the impression copings are unscrewed through the window on the tray and the impression is removed from mouth with all the impression copings in place. The healing abutments are replaced.

The impression of implants was made with silicones for addition with different viscosities after merging all the impression transfer with Duralay red resin. VDO of the patient remained unchanged. We used a compass for measuring two times the distance between the tip of the nose and the mandibular symphysis.

The provisional restoration was checked on the model (fig 6) and then placed in the patient's oral cavity (fig.7) following that in 3 months it will be replaced with the final prosthesis made of zirconium ceramics. The provisional prosthesis was reinforced with a metal bar to avoid its fracture.



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Fig.6. External appearance of the mandibular metal-prosthetic bridge after sanitization

Fig.7. Occlusal view of the final restoration on mandible

The second case is of the 50-year-old PM patient who presented himself in the dental office complaining of mastication, swallowing, physiognomic problemes and fetid breath as a result of chronic marginal periodontonpathy grade 3 spre 4, advanced bone resorption located in all mandibular and maxillary teeth (fig.8).



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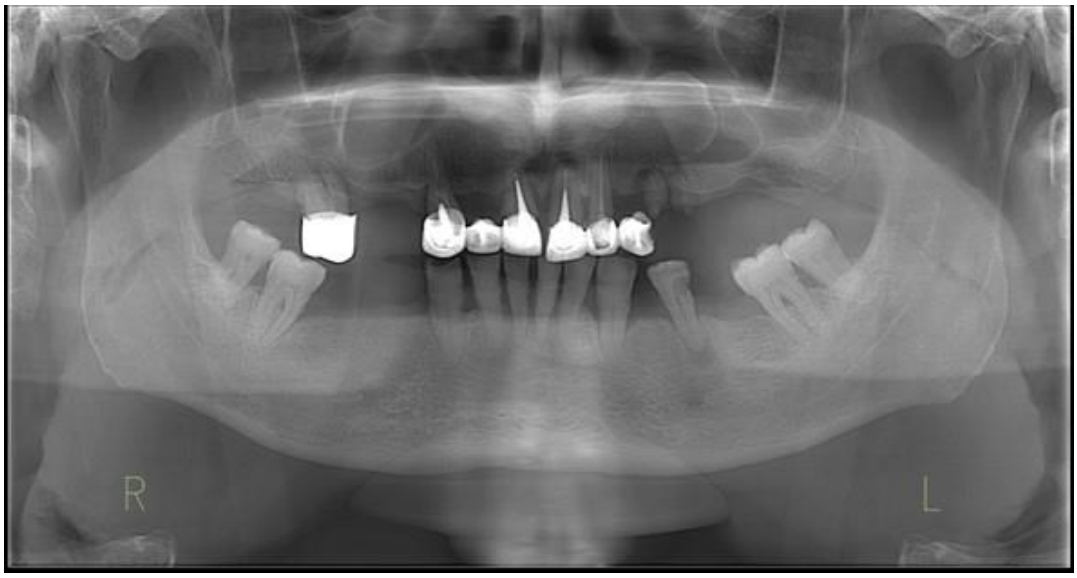


Fig.8. Initial OPG-periodontonpathy grade 3 to 4 located at all mandibular and maxillary teeth

After performing a CBCT, all periodontal teeth were extracted, keeping only 16 on the arch covered with a metal-ceramic crown to keep the vertical dimension of occlusion (DVO), but also 36,37,56,47 intact. We performed curettages at the level of the alveoli of teeth 11 and 21 as well as at level 24 root rest that presented a periapical process as well as a level 34. The alveoli was also filed with Gen-Os (OsteoBiol) by Tecnoss and Apatos (OsteoBiol) by Tecnoss as the present case apllying the Fast@Fix protocol INNO All-on-eight to the maxilar and All-on-seven to the mandible (fig.9).

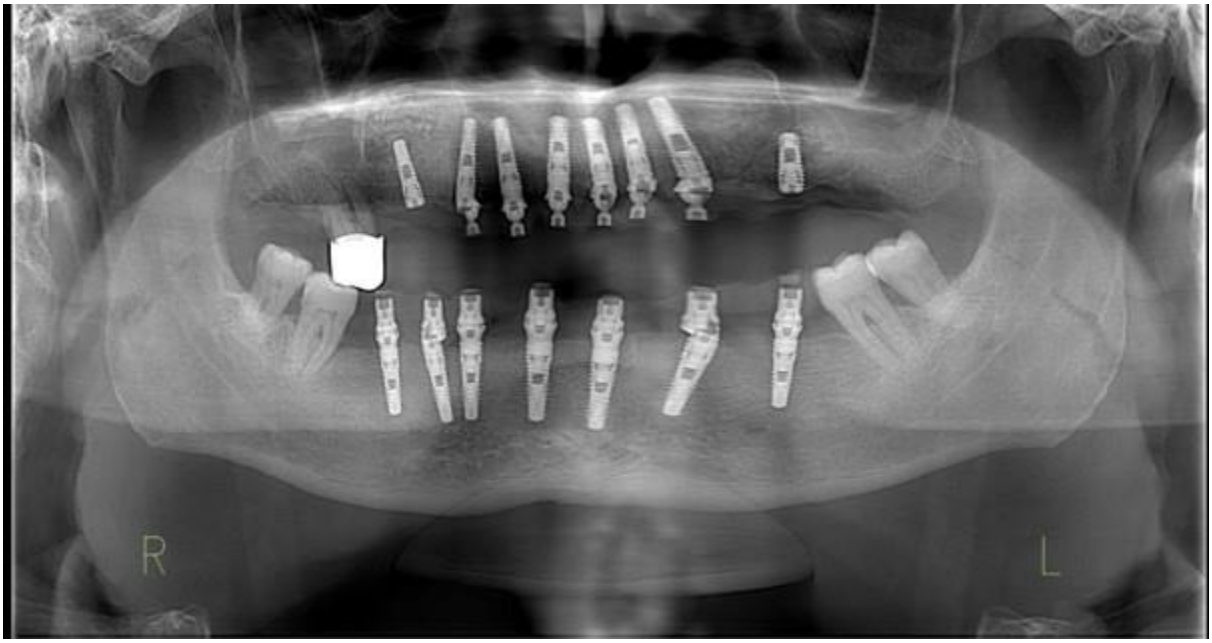


Fig.9. Radiologic appearance after the insertion of the eight maxillary implants and seven mandibulary implants.



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In the next period, an impression will be taken for the provisional bridge.

The third case is that of the 57-year-old SN patient who presented himself at the dental office complaining of mastication, swallowing and physiognomic disorders as a result of the loss of dento-periodontal units through caries and incorrectly performed dental treatments. The all-on-five protocol from INNO was applied to this patient with immediate loading and 2-piece zirconium ceramic bridges (fig.10).


Fig.10. Radiologic appearance after the insertion of the five mandibulary implants with fixed zirconium ceramic bridges

**DISCUSSION**

In 1991 and 1992, Bruggenkate published reports of angled implant placement in the posterior maxilla used to support overdenture [36, 37]. In 1995, a one-year primate study performed by Celleti et al demonstrated osseointegration of both straight and angled implants. This study provided both clinical and histologic evidence of implant osseointegration irrespective of implant angulation [38, 39, and 40].

In 1995, Branemark published a 10-year survival study of fixed prostheses retained with either four or six implants. This article suggested that, although there was a tendency for increased failure rates in patients with only 4 implants, the overall survival rate both for groups. Prior to this publication, the tendency of some clinicians was to place as many maxillary implants as possible in cases of full-arch rehabilitation. This publication was the first to demonstrate equal success with an implant foundation consisting of only 4 implants [41, 42, and 43].

A grafless surgical technique and medium-length study using angled implants was published by Mattsson et al in 1999. This solution to maxillary full-arch rehabilitation was postulated to increase


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treatment predictability decrease patient cost and decrease complication rates, 86 implants was placed into 15 patients. Patients were followed for an average of 45 months. During this time, one implant was lost resulting in a 98.8% implant survival rate. All patients had a stable prosthesis at the end of the observation period. Bilateral fenestration were created into maxillary sinuses for the purpose of anatomic exploration and bone sounding of the anteromedial sinus wall. Posterior implants were placed parallel to the sinus wall. Anterior implants were placed axially. Eight-eight percent of implants installed had 2-6 exposed palatal threads which were nor grafted. This finding did not seem to lead to any mucosal problems according to their report. Primary closure was obtained at the time of surgery. In this study, patients were not allowed to wear a removable prosthesis for 2 weeks. Implants were uncovered at 6 months. The authors concluded that the maximum use of residual bone stock, angulation of implants and expose palatal implant threads may allow for full-arch rehabilitation of severely resorbed maxilla's [41, 44, and 45].

In 2000, Krekmanov reported placement of angled implants in several resorbed maxilla's. An open sinus technique was performed by way of a sinus fenestration and a straight probe was used to sound the anterior and posterior walls of the sinus. Implants were placed parallel to the anterior and posterior walls at approximately 30 degree angulations. A total of 75 maxillary implants were placed and followed for 18 months. Nineteen implants were palatal inclined and placed tangential to the curve of the palate at the molar regions engaging maximum cortical bone. During the observed time period only maxillary implant was lost [46, 47, and 48].

Immediate loading of angled and axial implants was first reported in the mandible and later in the maxilla. Malo performed immediate full-arch rehabilitation of 32 patients with 128 implants and documented his success in a one-year retrospective study. His study highlighted the use of four implants placed at the cornerstones of the maxillary arch. Anterior implants were placed in axial positions while posterior implants were angled 3-45 degree and parallel with anterior sinus wall. The maxillary sinus was fenestrated bilaterally and probed to ensure placement of implants within residual bone and with anteroposterior spread. Insertional torque of at least 40 Ncm was obtained by underpreparing implant osteotomy sites and relying on lateral compression of implant threads and bi-cortical stabilization. Implants were located with a fixed provisional restoration on the day of surgery. Final prostheses were delivered 12 months after surgery. No axial implants failed and there titled implants failed resulting in survival rates of 100% for axial implants and 95.3% for titled implants. Medium and long-term follow-up studies published by Malo corroborated original findings with similar levels of success [49, 50, and 51].

Successful All-on-four rehabilitation is a complex, patient-tailored and prosthetic-driven treatment solution. Prosthetic material, teeth size, lip support, incisor positioning, teeth show at rest and animation, phonetics, orofacial musculature, bite force, parafunctional habits and alterations do to the occlusal vertical dimensions are just some of the



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factors used to determine interarch prosthetic space requirements by the restorative clinician. The final prosthetic design dictates the vertical position of the maxillary osteotomy which in turn, directs functional implant positions and angulation. The vertical position of the maxillary osteotomy after extractions and alveolar reduction is sometimes referred to as the All-on-four Shelf [52, 53, and 54].

In 1997, Krekmanov and Rangert reported initial success with placement of mandibular implants angled posteriorly over the mental foramen to decrease cantilevel length [55, 56]. A follow-up study was published in 2020, in which 36 tilted mandibular implants were placed in 22 patients. The patients were followed for at least 40 months and demonstrated a 100% success rate of mandibular implants. The tilting of the implants over the mental foramen allowed for an average anteroposterior spread by 6.5 mm [47, 57, and 58]. At the time, these studies represented a subset of those available in the body of literature that suggested axial and tilted implants had comparable success in short and medium-length follow-up period. Sill, surgeries were two-stage with healing periods of six to eight months before implant loading. Advance in implant design and surface coatings aimed to reduce healing time and increase bone-to-implant contact. It was found that implant roughness, porosity, topography and surface energy were synergistic accelerators of osseointegration. Anodization of implant surface as well as air powered particle abrasion followed by acid washing were two techniques manufacturers employed to increase micro texturing of implant surface [59, 60, and 61].

In accordance with original principles of osseointegration, implants were placed and buried beneath the soft tissue for a healing period to prevent excessive movement. Studies later emerged showing that limited movement could be tolerated without disintegration of the implant. This finding was perhaps best reported by Schnitman et al. in 1990 [62, 63]. In an attempt to provide his patients with a fixed provisional appliance during the healing phase following surgery, seven or more mandibular implants were placed at the time of surgery. Three implants were used to fixate an immediate provisional appliance while the remaining implants were buried throughout the healing phase. A surprising discovery was that more than 90% of the provisional implants remained integrated throughout the treatment phase. A 10-year follow-up study published in 1997 demonstrated that more than 80% of those original provisional implants remained osseointegrated. Tolerability of a certain amount of implant micromovement during the healing phase was not detrimental to overall survivability [64, 65, 66]. Tolerability of a certain amount of implant micromovement during the healing phase was not detrimental to overall survivability.

In 2002, Malo et al reported his success with immediately loading mandibular restorations utilizing four implants, two posterior angled and two anterior axially placed implants [50, 67, and 68]. The idea of Malo’s protocol was to place four implants at the cornerstone of the mandibular arch to support the prosthesis. He performed immediate full-arch rehabilitation in 44 patients with 176 implants. Twenty-four of the first 30 patients had two “rescue implants” placed



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that remained buried and were only used in the final prosthesis, this was termed the development group. Due to the success of the first 30 patients, the remaining 14 patients had no rescue implants placed. The anterior implants were placed axially following the mandibular anatomy and posterior implants were placed just anterior to the mental foramen and angles posteriorly 30 degree to the occlusal plane. All implants were placed with an insertional torque of over 40Ncm. A metal-reinforced, acrylic prosthesis was placed at the time of surgery. Final restorations were placed four to five months after surgery in the development group and the remaining patients maintained the provisional restoration for the duration of the study. At one year, both groups demonstrated a 100% prostheses survival rate and a 96.7% and 98.2% survival rate in the development group and routine group, respectively. This confirmed the feasibility and success of immediately rehabilitating the mandibular arch with angled and axially placed implants [69, 70, and 71].

In 2011, Malo followed-up his original publication evaluating the long-term success of restoring mandibular arches in accordance with All-on-four protocol. The longitudinal study evaluated 245 patients treated from May 1999 to November 2004 with an immediately-loaded mandibular prosthesis. The surgeries were all performed by the same two surgeons and followed the same surgical protocol. A total of 21 of the 980 implant failed giving an implant success rate of 98.1% at five years and 93.8% at 10 years. In 2018, Malo continued to evaluate success and reported that at 18 years the All-on-four treatment protocol had a 91.9% implant success rate and a 99.65% prosthetic survival rate. The reported levels of marginal bone loss were 1.52 mm and 2.32 mm at 10 and 15 years, which is in accordance with other published implant studies [69, 72].

The major differences of All-on-four, All-on-six and All-on-eight dental implants are found right on the numbers on their names. They refer to the number of implants that will be strategically placed on the top and/or bottom jaws. Another major difference between all-on implants and natural teeth, of course, is the fact that you floss them differentially than actual real teeth [70].

In particular, the gaps between suspended false teeth just above the gums with missing teeth are different. Furthermore, the pressure is distributed to the implants and jaws more evenly when you have more implants included. The more implants you have the more stable your permanent dentures will be [70].

By dramatically increasing prosthetic stability, implant-supported full-arch restorations significantly improve chewing ability, taste of food and speech function. The positive impact of All-on-X implant-supported dentures on oral health, comfort and incredible esthetics offered to edentulous or severely compromised dental patients is accompanied by social and psychological benefits as well as improved personal confidence. At the same time, the long term benefit of dental implant-supported full-arch prosthesis are significant for maintaining long term health: the dental implants help retain bone of the jaws, help retain use of normal masticating muscles maintaining normal oro- myo- functional musculature. Creating a more youthful facial appearance unlike


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denture, promote bone maintenance helping patients look younger look through the mitigation of bone loss, avoiding structural changes like bite collapse and skin sag, aid in the mitigation of gingival recession. Help prevent bone collapse and masticating pressures from compressing the mandible inferior alveolar nerve, helping to preserve the shape of the patient's mouth and facial structures [73, 74, and 75].

## CONCLUSION

Correct diagnosis and treatment planning are the key for successful immediate implant rehabilitation in resorbed ridge.

Whether All-on-four, All-on-five, All-on-six and All-on-eight treatment or any variation of full arch implant supported design, that is the best option for quality of life, long term durability, bone maintenance, health improvement, perfunctory improvement and frankly happiness.

All-on-X implant-supported full arch restorations are nothing short of "live-changing". Patients who have suffered from tooth loss(edentulism) for years, regardless of whether it was induced by trauma, periodontal disease, negligence or any other factor are simply thrilled when they experience the improved quality of life offered by a beautiful, natural feeling, implant-supported fixed restoration like a hybrid or a zirconium ceramic bridge.

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