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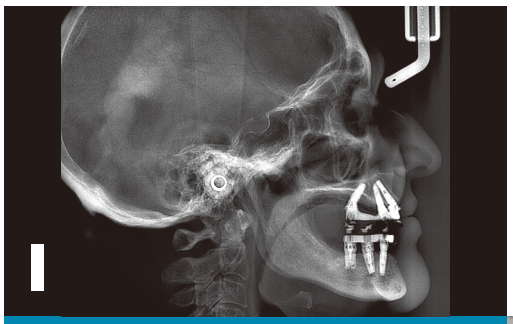
JCDD

Journal of Clinical & Digital Dentistry

Cover Images from Khegay Igor. (J Clin Digit Dent 2023;5(1):7-15)



JCDD
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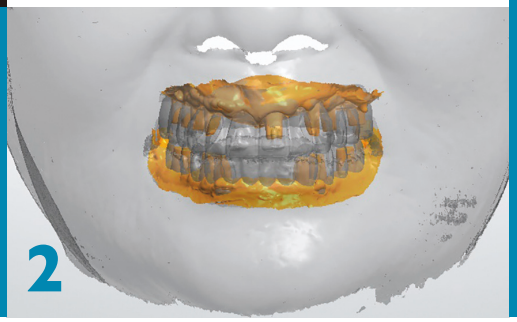

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About the Journal

The Journal of Clinical and Digital Dentistry are published four times (March, June, September, and December) annually since May 2019. The abbreviated title is "J Clin Digit Dent". In the journal, articles concerning any kind of clinical dentistry such as prosthodontics, orthodontics, periodontics, implant dentistry and digital dentistry are discussed and presented.

Aims and scope

This journal aims to convey scientific and clinical progress in the field of any kind of clinical and digital dentistry.

This journal publishes

- Original research data and high scientific merit in the field of clinical and digital dentistry.
- Review articles.
- Case reports in implant dentistry including GBR, digital dentistry, 3D printing, and prosthodontics.
- Short communications if they provide or document new technique and clinical tips.

About the Journal

Editorial Board

Editorial

Self-reflection

Self-reflection is crucial for improvement. Reflecting on your words and actions helps to prevent repeating mistakes in the future.

In the same vein, reflecting on your treatments as a dentist and contemplating whether anything was lacking in the treatment or potential changes in the treatment plans often leads to self-improvement and motivation, which subsequently translates into better treatment for patients.

Thus, it is natural for well-experienced clinicians to document pre- and post-operative photographs and radiographs of their patients from diagnosis to follow-up, allowing them to evaluate and improve treatment strategies and outcomes.

Presenting their treatments through journal publications, lectures, or poster presentations at conferences is one approach for dentists to more actively reflect on their practice. This method of presenting treatment outcomes of patients externally is beneficial in developing their clinical practice. This is mainly because rather than self-evaluating, getting their treatment assessed by other dentists will benefit them and other dentists as well.

This issue of JCDD is unique. There were poster presentations at the Dentis World Symposium in Seoul in October 2022. I applaud all the presenters, and the presentations that were awarded are available for readers' perusal. I hope that these papers will provide an opportunity for the practicing dentists to review and improve their clinical practice.

Wongun Chang, DDS MS PhD

SQ GUIDE

DENTIS Digital GUIDE System for SQ IMPLANT

Application of Irrigation

Reduce bone heating with innovative irrigation-type drill design

Fixture Placement is Possible with Only Three Drillings

Application of multi-pass drilling makes 2-point fixation possible with increased accuracy due to minimal tolerance

Sleeve with Biocompatible Material

Increased stability with titanium sleeve

Stress Free! Use SQ Implant

DENTIS SQ implant with strong initial fixation

DENTIS

Head Office (Korea)
Tel +82 53 589 3528 E·mail colin@dentis.co.kr Web·site www.dentis.co.kr/eng

DWS 2022
Poster presentation

Digital and analog solutions for bite adjustment, functional adaptation and great esthetics in full-mouth rehabilitation.

Khegay Igor, DDS, PhD

Introduction

Full-mouth rehabilitation with implants is one of the most difficult clinical tasks that requires accurate diagnosis, digital planning methods and the use of modern approaches in the prosthetics of such patients. In this clinical case, we want to show one of the ways to achieve a high aesthetic result, improve the patient's appearance with the use of a "nature-like" metal-ceramic prosthesis on implants, and a method for creating a stable functional occlusion with registration of the patient's individual gnathological parameters.

Khegay Igor

- 1988 Graduated from the Faculty of Dentistry of the Novosibirsk Medical University
- 1999 Ph.D. in Medicine
- Participant and lecturer of international and national congresses and symposiums, has more than 60 certificates and diplomas.
- Since 2001, he has been seeing patients in his own dental clinic. More than 7000 implants have been successfully installed.
- Since 2011 - co-founder and ideological inspirer of the Scan Center organization in Novosibirsk.

Case Report

[Case 1]

Patient information

Age: 61 / Sex: female

High blood sugar level (type II pre-diabetes), dietary adjustment, complaints on gastrointestinal tract (GIT).Complains: aesthetic problems, dysmasesis, tooth mobility, painful sensation when biting, fetid breath. Examination revealed: plaque and tartar deposits, aula and oedema, tooth mobility, secondary dislocation and teeth inclination.

Periodontal probing revealed pathological periodontal pockets with discharge.Diagnosis: Generalized periodontal disease. Partial adentia.

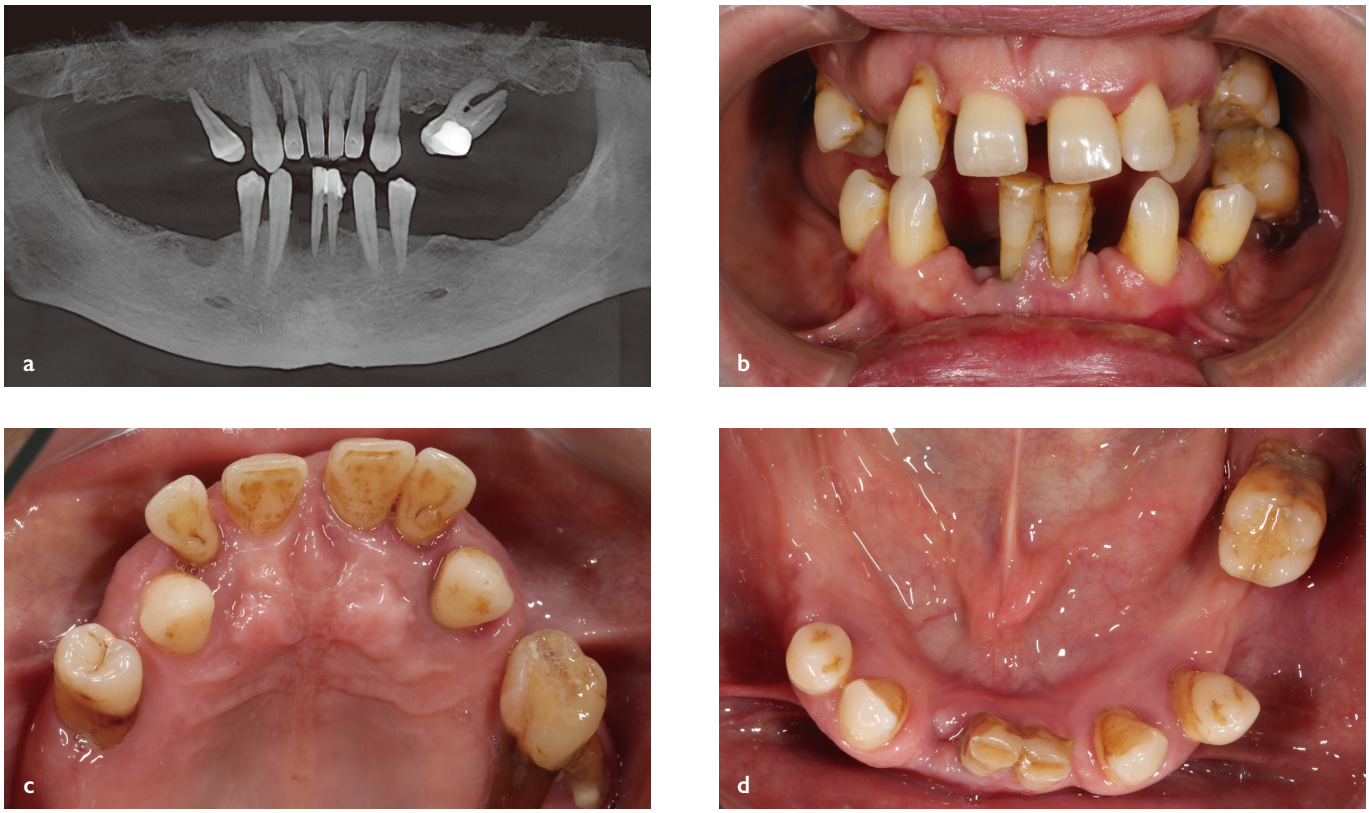

Fig. 1 a-d. Situation before treatment

Treatment plan

Upper jaw

Full dental extraction on upper jaw, implants placement (6), guided bone regeneration (GBR), soft tissue management. Full-mouth rehabilitation of the upper jaw using porcelain fused to metal "nature-like" implant-retained (6) prosthesis, screw-retained Multiunit abutment.

Lower jaw

Full dental extraction on the lower jaw, partial reduction of the alveolar ridge, implants placement (6). Full-mouth rehabilitation of the lower jaw using acrylic prosthesis on a Titanium bar, screw-retained Multiunit abutment.

Treatment. Surgical stage + temporary prosthesis

Implant position planning was done using Dentis SQ Guide software from Dentis, Dentis SQ implant system, Dentis SQ Guide surgical kit

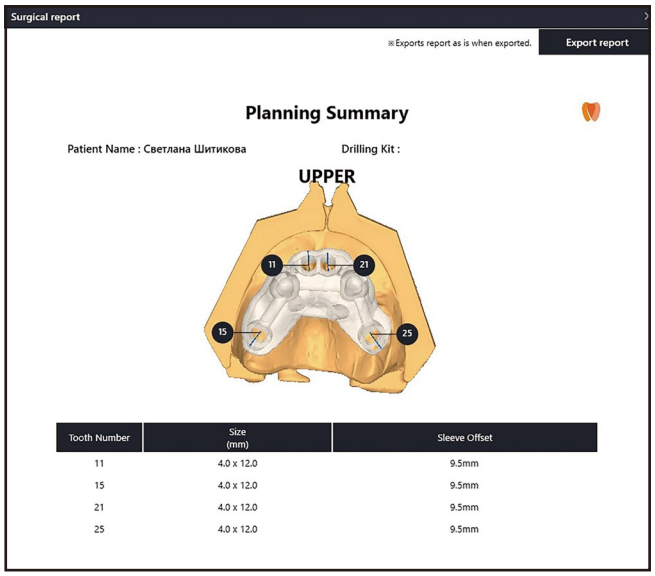

Fig. 2.

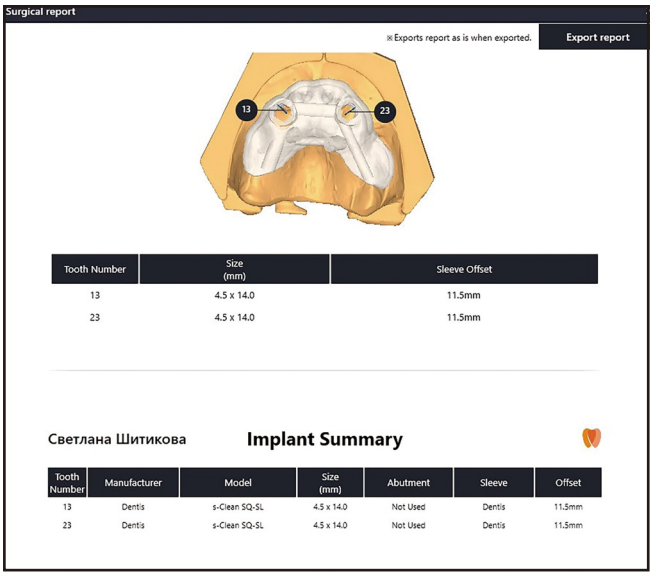

Fig. 3.

Fig. 2-3. Planning summary in DentiQ Guide

We have planned and manufactured two sequential guides for each jaw with supplementary fixation and positioning using pins.

Fig. 4. 2 guides for upper jaw.

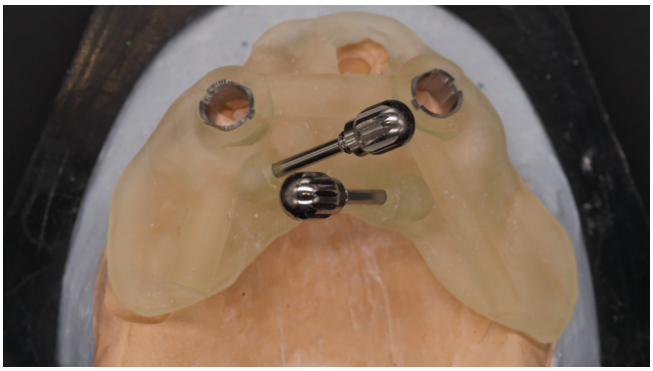

Fig. 5. 2 guides for upper jaw.

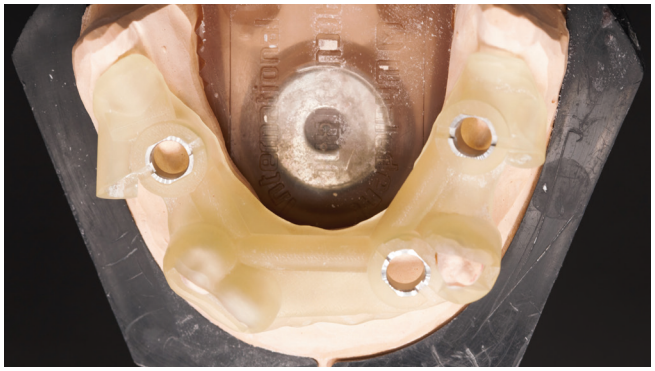

Fig. 6. 2 guides for lower jaw.

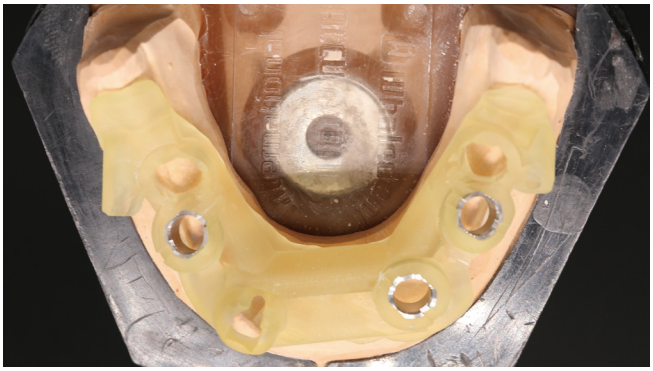

Fig. 7. 2 guides for lower jaw.

Upper jaw. Placement of 6 SQ implants was conducted in areas of 1.6; 1.3; 1.1; 2.1, 2.3 and 2.6, 2 angulated implants (30°) were placed in areas of 1.6. and 2.6 **(Fig. 8-10)**.

An impression for the manufacture of a temporary PMMA prosthesis on a titanium bar was taken on the day of the operation.A 3D printed prototype of a permanent prosthesis with a guided holes for impression transfers was used to take an impression **(Fig. 11)**.

A temporary prosthesis for the upper jaw was manufactured using PMMA on a Titanium bar **(Fig. 12-14)**.

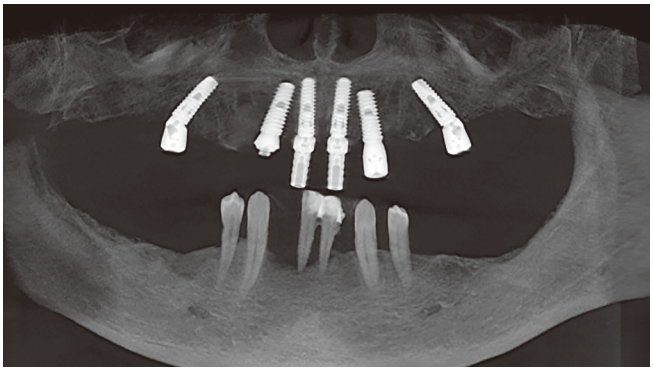

Fig. 8.

Fig. 9

Fig. 10.

Fig. 11.

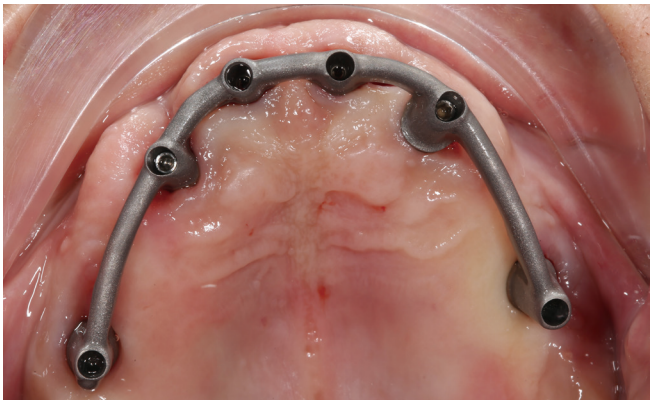

Fig. 12.

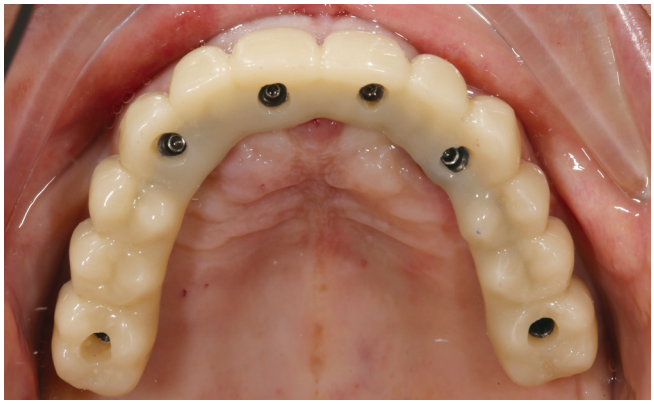

Fig. 13.

Fig. 14.

Lower jaw. Placement of 6 SQ implants was conducted in areas of 3.6; 3.5; 3.3; 4.3; 4.5 and 4.6. Implants in the area of 3.5 and 4.5 were tilted to bypass mental foramens **(Fig. 15-17)**.
A surgical guide was used to take the impression on the day of a surgery **(Fig. 18)**.
A temporary prosthesis for the lower jaw was manufactured using PMMA on a Titanium bar **(Fig. 19-21)**.

Fig. 15.

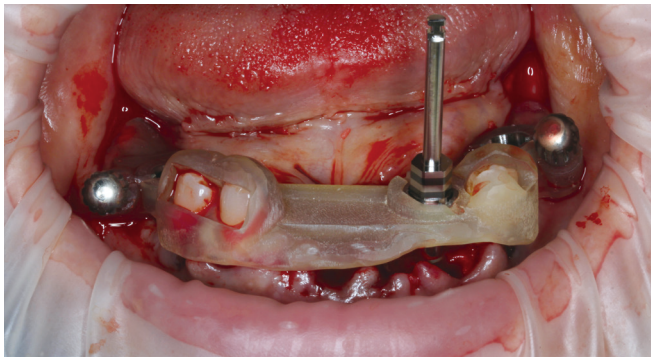

Fig. 16.

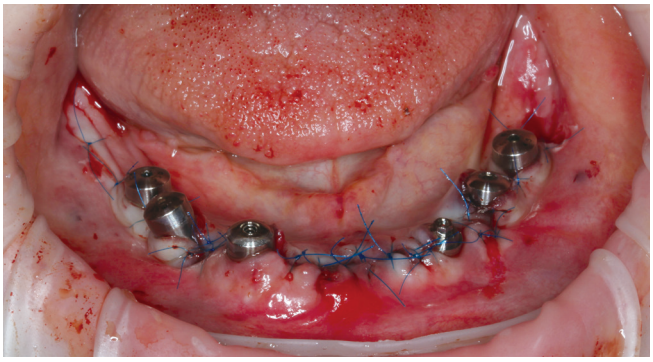

Fig. 17.

Fig. 18.

Fig. 19.

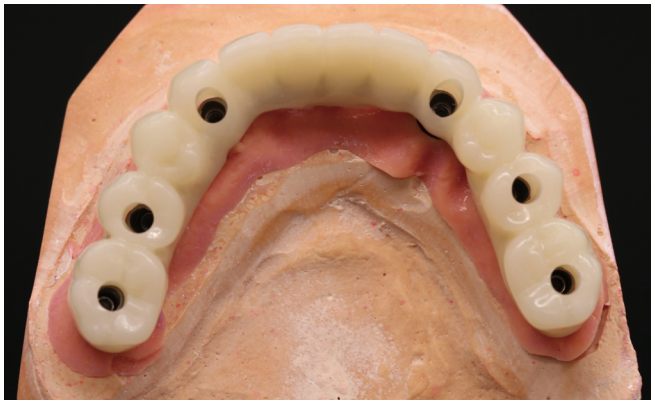

Fig. 20.

Fig. 21.

Treatment. Final restoration (6 months later)

The patient complained on muscle tension and fatigue, difficulty in mastication, tongue biting, and difficulty in phonation.

Additional examination made it possible to detect the mistake in temporary prosthetics and calculate all required parameters **(Fig. 22-23)**.

Fig. 22.

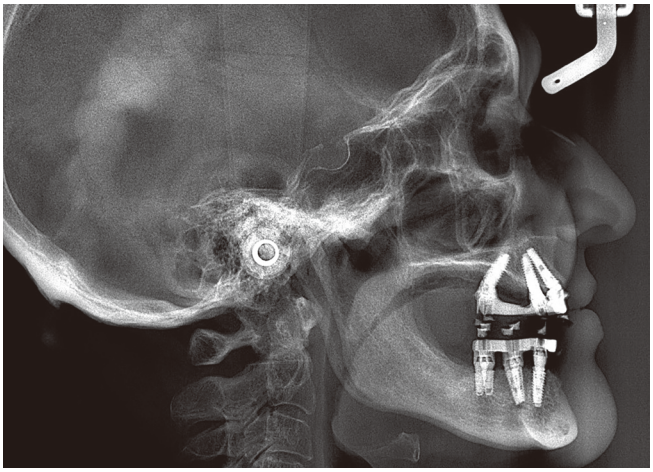

Fig. 23.

Calculation data:
Insufficient angle of inclination of the central incisors (SN angle Max1 = 94°, normal angle = 100-102°, distance NA to the incisal edge Max1 = 2 mm, normal distance = 4 mm).
Reduction of the lower third of the face (angle Ans –Xi – Pm = 43°, Ricketts norm = 47°).
As a result, upper jaw dental arch should be expanded and angle of inclination of the central incisors should be changed.

Permanent prosthesis.

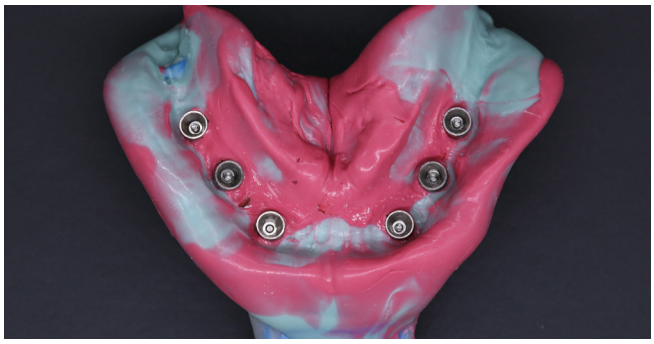

Fig. 24. Impression

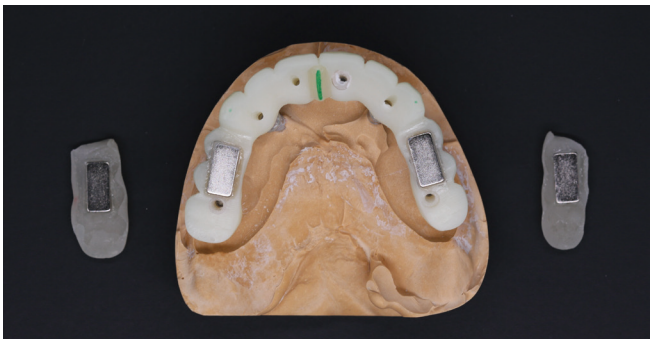

Fig. 25. Getting a centric jaw relation

Fig. 26. Getting a centric jaw relation

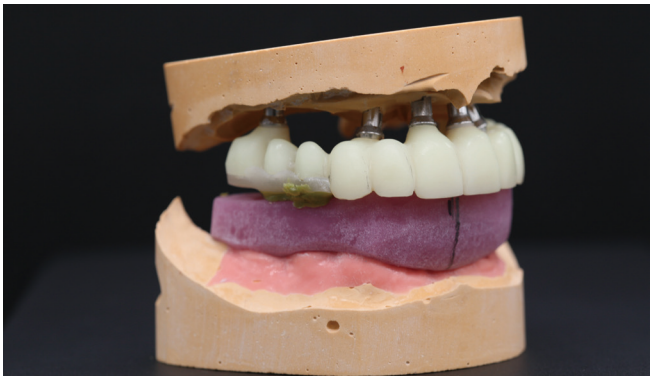

Fig. 27. Fixed centric relation of the jaws.

Manufacturing of prototypes for scanning is based on anatomical principle.Dental technician does teeth set-up of the lower jaw according to anatomical reference points using articulator to create reference points (prescans) during modeling in the 3Shape (Exocad). As a result, upper jaw mock-up is in correspondence with the lower dental arch **(Fig. 28-30)**.

Fig. 28.

Fig. 29.

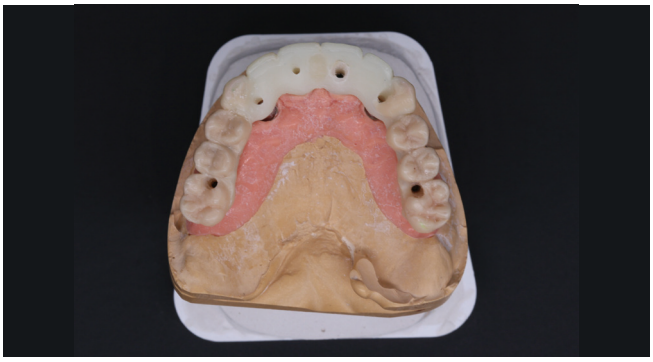

Fig. 30.

Prototypes of future prostheses (made of PMMA) were milled in accordance with preliminary digitalized positioning.
According to our observations, it is very difficult for patients with implant-supported complete arch restorations to coordinate articulation and perform canine guidance.

So, the main task is to create a group function for laterotrusive movements. Subsequent, adjustment of articulator in the laboratory, requires face bow transfer and silicone indexes registration **(Fig. 34)**. we got the patient's individual parameters for dental laboratory.

Fig. 31. Prototypes of future prostheses (made of PMMA). Protrusion

Fig. 32. Prototypes of future prostheses (made of PMMA). Right laterotrusion

Fig. 33. Prototypes of future prostheses (made of PMMA). Left laterotrusion

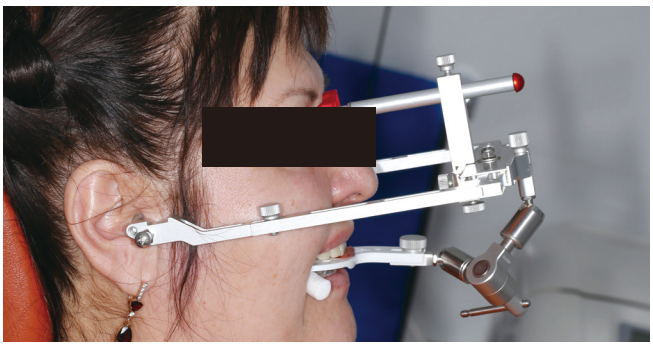

Fig. 34. Facebow transfer

Permanent dentures manufacture. Conflation of aesthetics and function.

In order to achieve a high aesthetic results a technique of manufacturing a nature-like implant supported denture (denture without artificial gum) is used.

Fig. 35. Upper jaw.

Fig. 36. Upper jaw.

It is very important to position implants in a way that allows the screw shaft to reach the palatal or masticatory surface!

Fig. 37. Upper jaw.
Screw-retained, milled denture framework (CoCr) is manufactured from the level of the Multi Unit abutment for press-to metal porcelain.

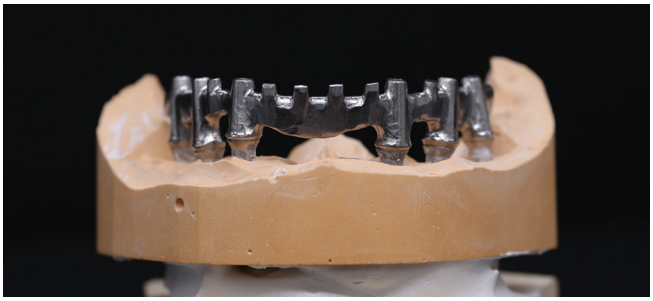

Fig .38. Lower jaw.
Acrylic denture on a titanium bar is preferred. This type of denture allows to compensate an occlusal load and has a good ability to self-correct.

Final results

Fig. 39. Contact of anterior teeth, posterior disclusion.

Fig. 40. Group function in right laterotrusion. Disclusion on the balancing side.

Fig. 41. Group function in left laterotrusion. Disclusion on the balancing side.

Fig. 42. Final results 1.

Fig. 43. Final results 2.

Fig. 44. happy patient.

Conclusion

Full-mouth rehabilitation with implants is one of the most complex clinical tasks, requiring the concentration of our dental knowledge and practical skills. Long service life of the structure is ensured by the properties of the SQ implants and digital planning of their position. However, I want to pay special attention to the creation of a stable functional occlusion, which in practice is a difficult task for the dentist and dental technician, which currently requires a combination of analog and digital approaches. I hope that the development of digital dentistry will make it easier and faster to solve these problems!

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Implant the Smile

The New Paradigm of 3D Printer

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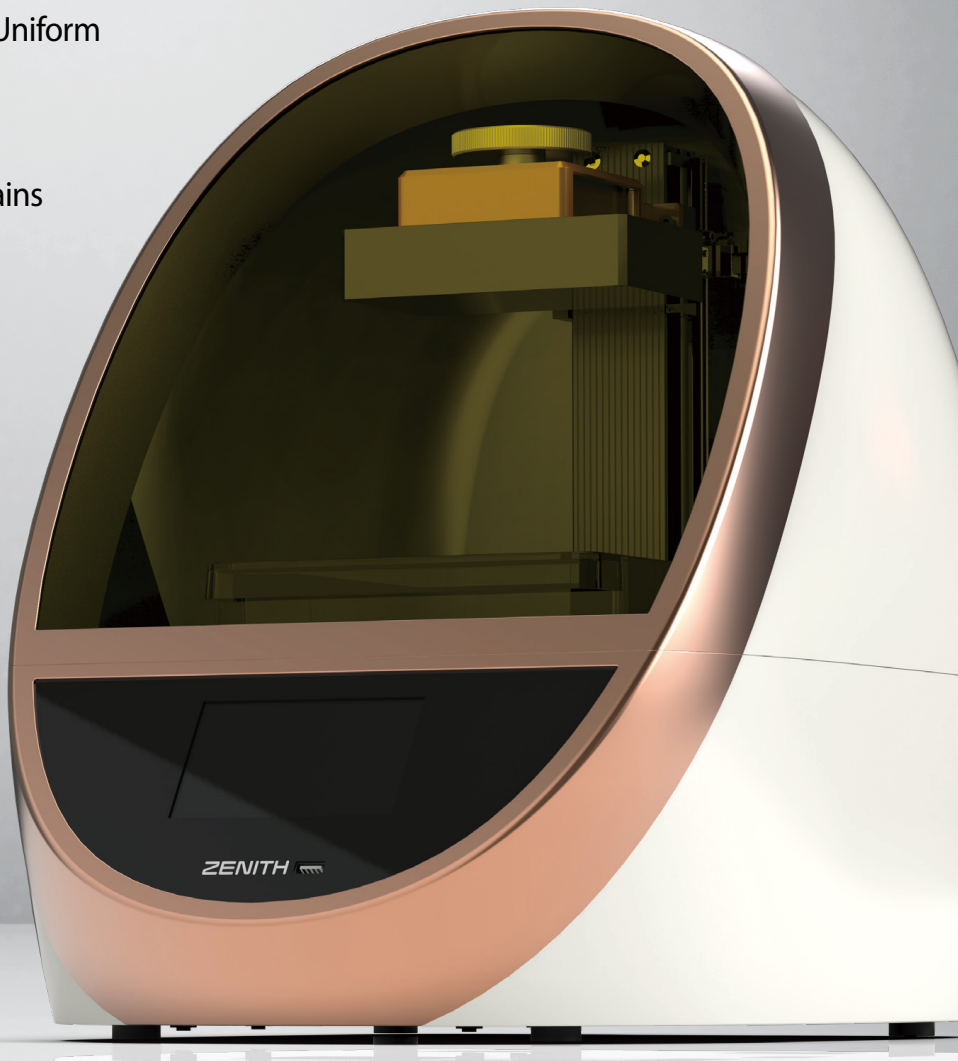
- High-resolution Printing System
- A Self-heated Resin Tank That Maintains A Constant Internal Temperature
- Innovative and Stylish Design
- Ideal Application to Various Areas



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DWS 2022
Poster presentation

Implant Full mouth rehabilitation (Digital workflow)

Chaehwan Baek, DDS

Case Report

Patient's First visit Data

Evaluate OVD, midline, amount of teeth exposure and etc. and determine if it is better to change OVD
Check that the position of the condyle is not forward displaced on the panorama
Panoramic images are taken in closed-mouth conditions to evaluate the location of the condyle

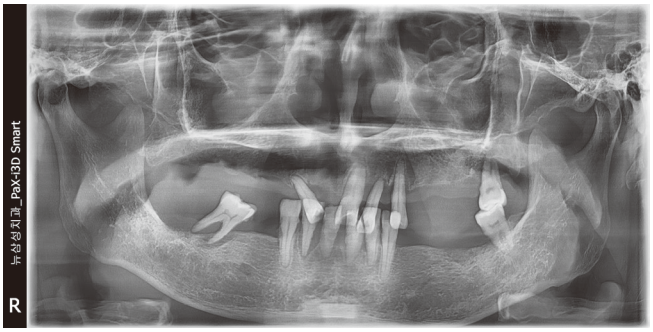


Fig. 1. Pre-op Panorama

Chaehwan Baek

- Head Director, New Samsung Dental Clinic
- Graduated from the College of Dentistry, Chosun University
- Resident at Department of Oral and Maxillofacial Surgery, Samsung Medical Center

Fig. 2 a-f. (a) Pre-op oral photo
(b)~(f) pre-op extra oral Photo

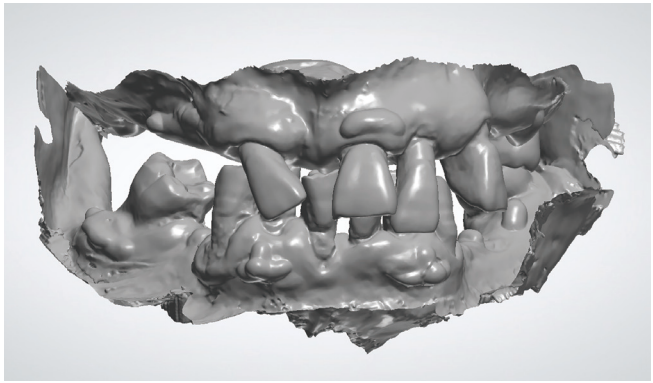


Fig. 3. Intraoral scan (Primescan ; Densply)

There was mobility at remained teeth which need to extract later. Before extraction, intraoral scan and bite scan performed for refer to the patient's current OVD.

Digital Diagnostic wax up

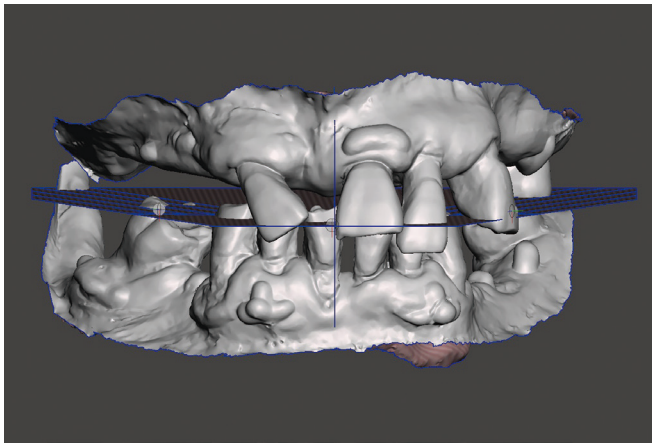


Fig. 4. Arrange the templates according to the midline and occlusal plane I want

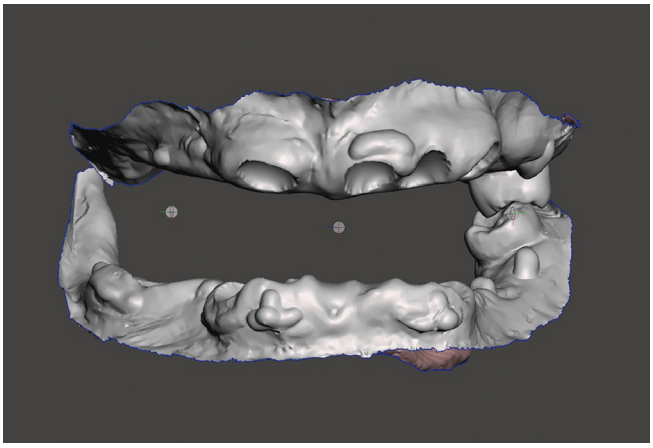


Fig. 5. virtual extraction (Use the Meshmixer program)

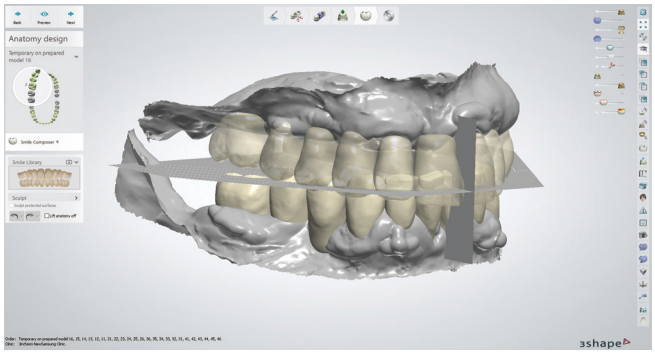


Fig. 6. Arrangement of teeth by referring to pre-extraction status and template : Use the 3shape Dental system 2021

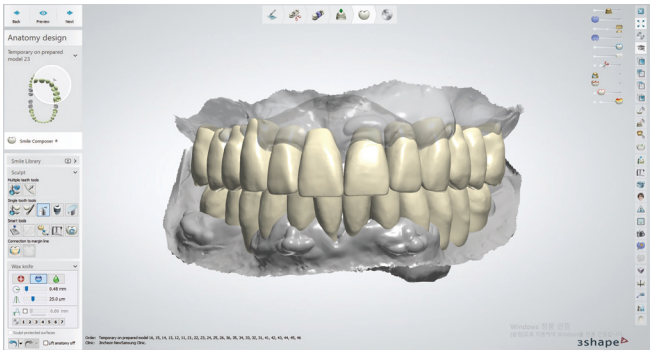


Fig. 7. Complete diagnostic Wax up

Wax up try-in

Fig. 8 a-b.
3D printing (use CMC High Speed Printer) of the diagnostic wax up and try-in it into patient's mouth. Check whether OVD, midline and occlusal plane is appropriate

Design Surgical Guide

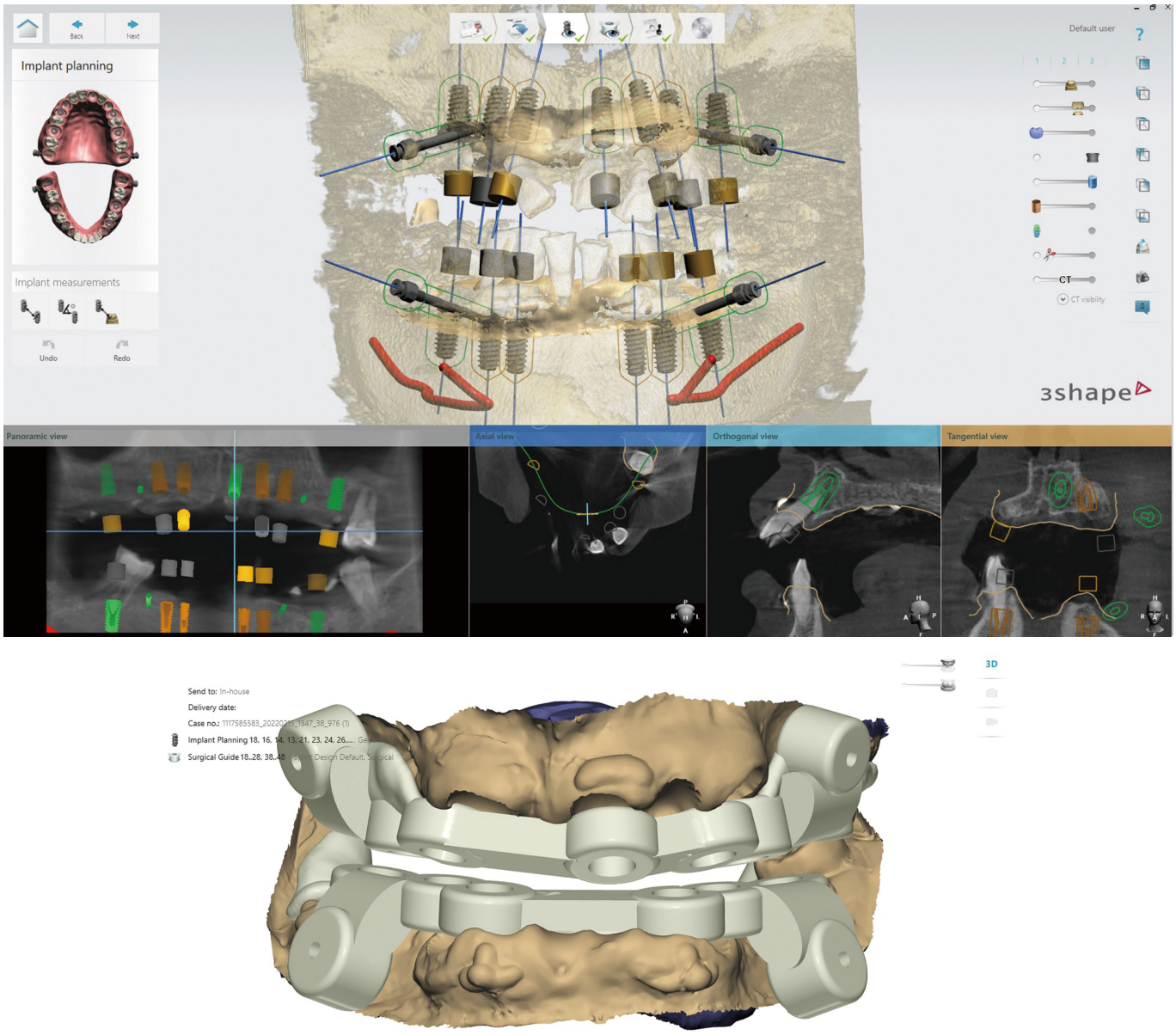


Fig. 9 a-b. Design of upper and lower surgical guide using Dentis SQ implant and 3shape implant studio

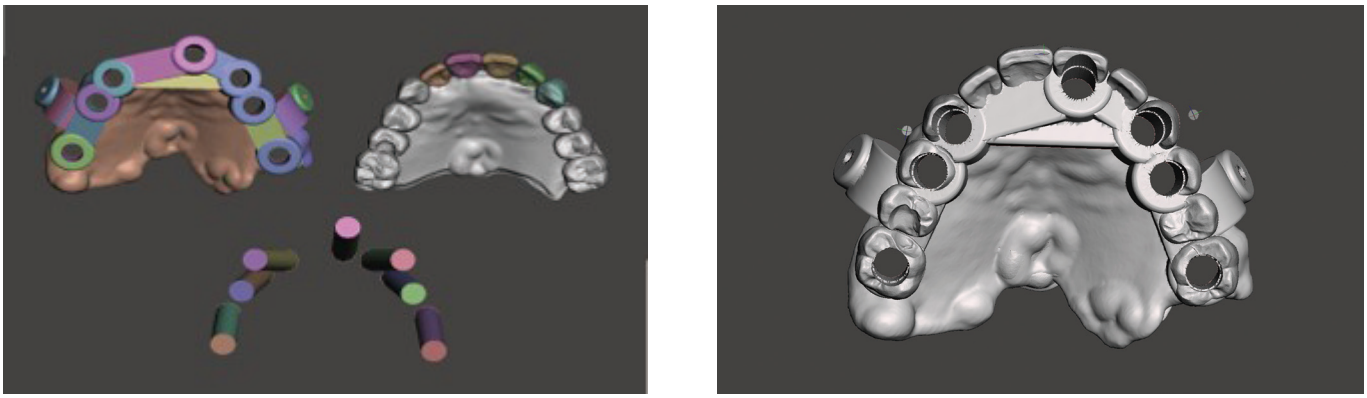
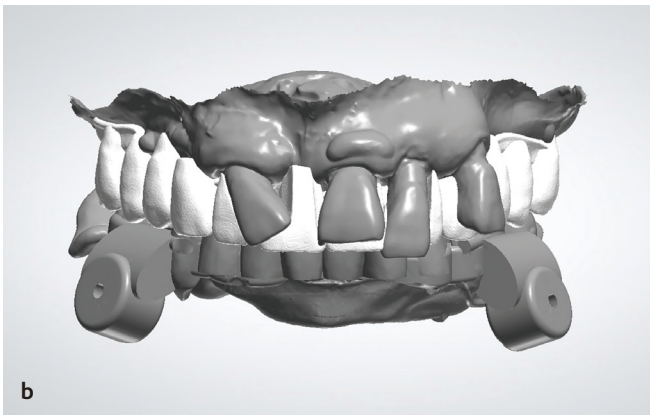
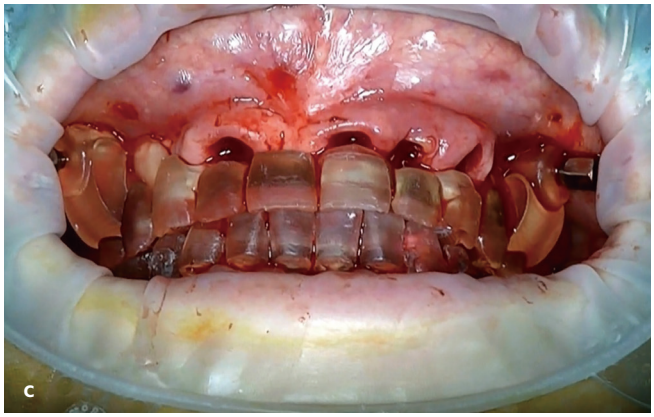
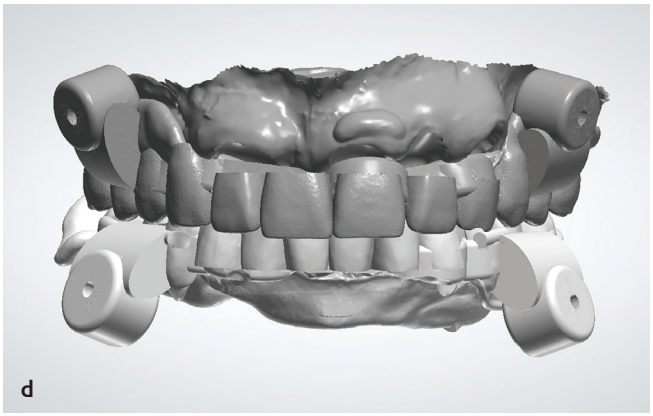


Fig. 10 a-b. The diagnostic wax up teeth shape combined with the guide to fix the guide to the planned position (Use Meshmixer)

Operation







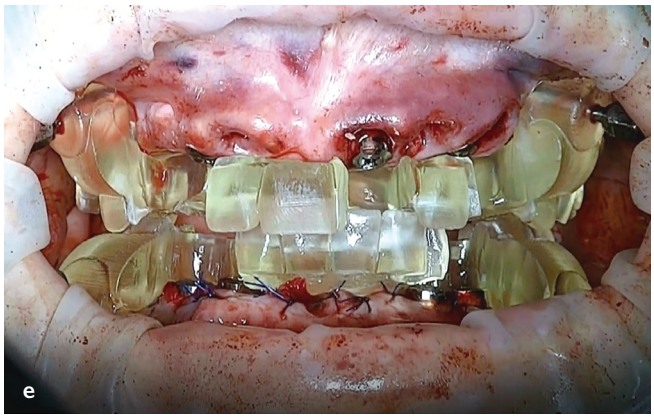


Fig. 11 a-e.
(a)~(b) mandibular surgery use Dentis SQ Guide Kit
(c)~(d) maxillary surgery use Dentis SQ Guide Kit
(e) Post-op scanning connect ScanBody at both Maxillary and Mandibular. Guide was modified and used when bite scanning1

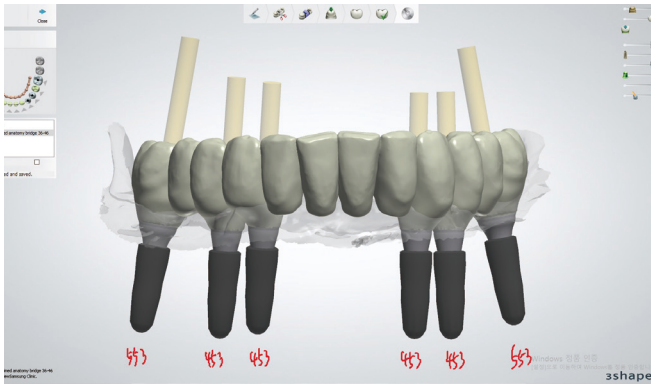


Fig. 12. 2 weeks after implants placement

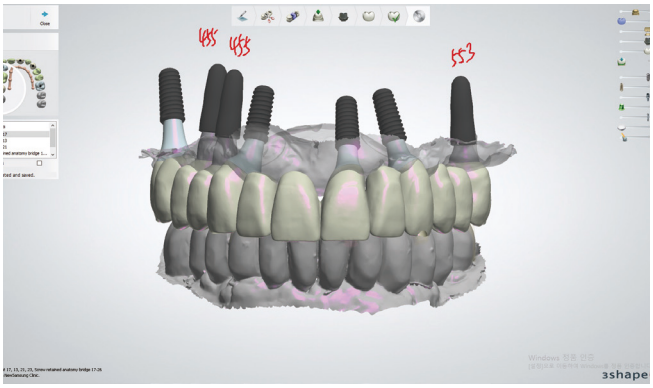


Fig. 13. Abutment connection 3 months after surgery

Immediate loading

Combination of custom and stock abutment
The right side of the maxillary bone quality is not good, so Additional implants are placed. than original plan
Temporary prosthesis was set on the day after surgery

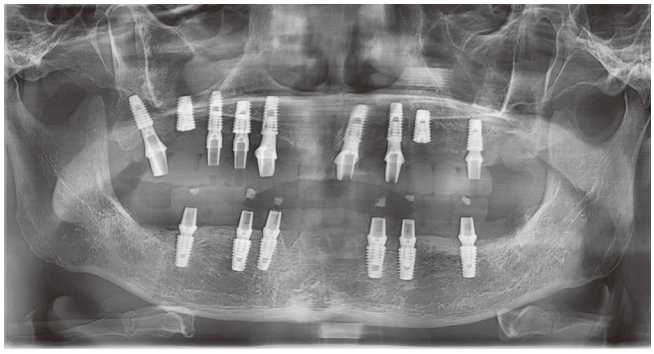


Fig. 14. Panorama

Fig. 15. Intra oral Photo

Replacement of temporary prosthesis : 2 months after surgery

After upper and lower oral scanning, re-make temporary prosthesis to fit the healed gingiva : Start gum modeling (custom abutment, milled temporary : Arum 5X-450, CMC milling machine)

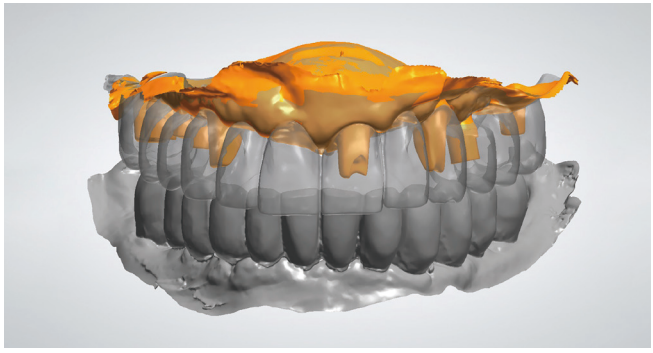


Fig. 16. Mx Intraoral Scan

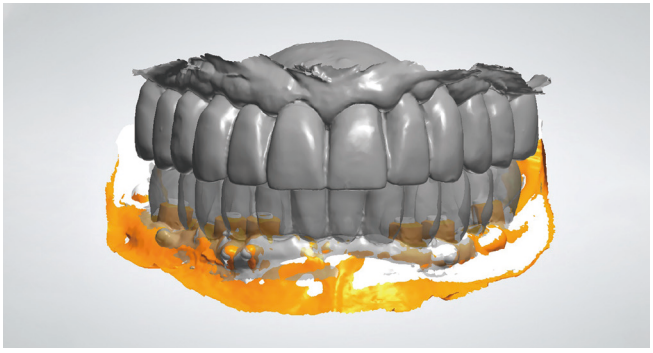


Fig. 17. Mn Intraoral Scan

Fig. 18. Intra oral Photo

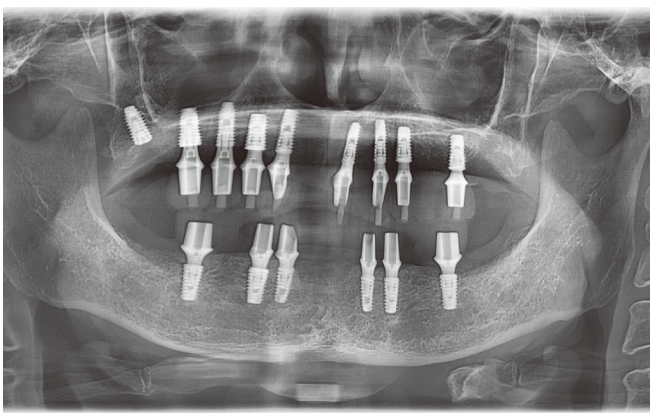


Fig. 19. Panorama

Re-make Provisional restoration

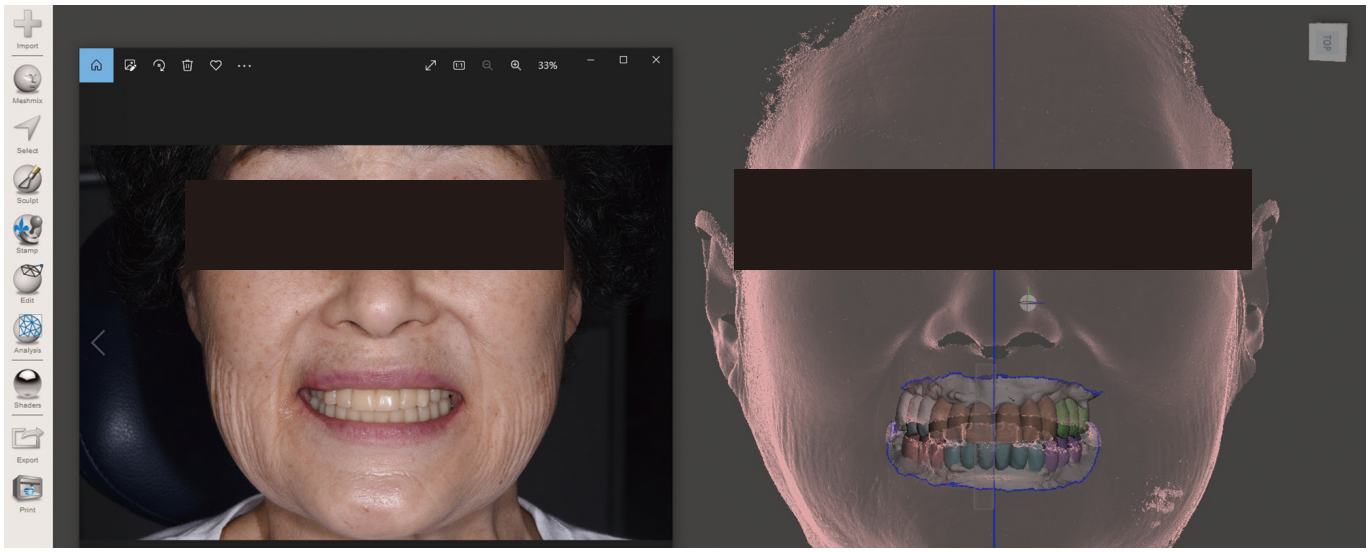


Fig. 20. It didn't stand out in Rest state, the midline was displaced at the time of Smile, so I decided to re-make temporary Prosthesis. It is judged that there was an error when setting midline because of orbit asymmetry and displacement of upper labial frenum

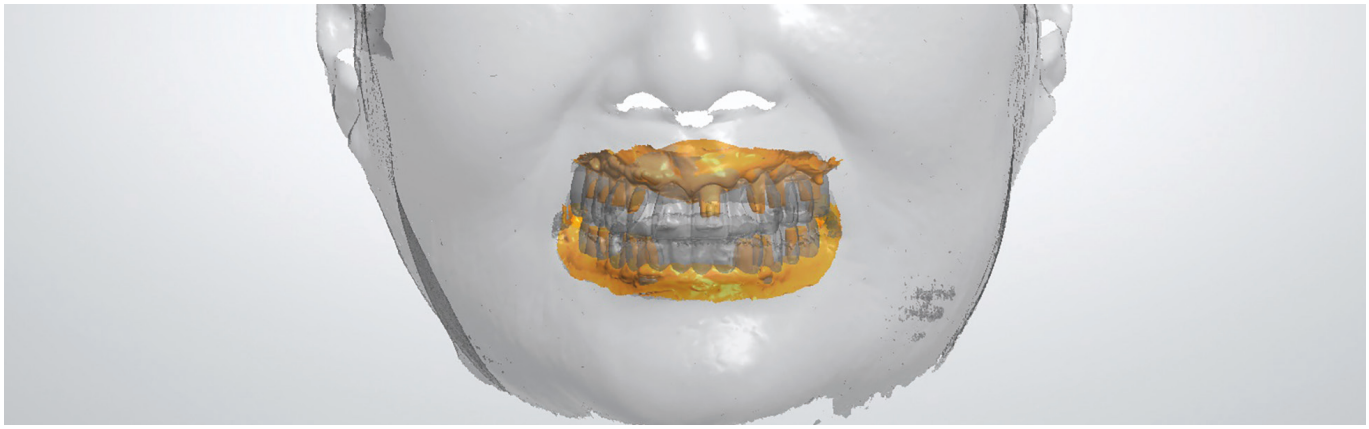


Fig. 21. arrange 3 Data (temporary prosthesis scan, abutment scan, facial scan) and redesign : Use CMC facial scanner

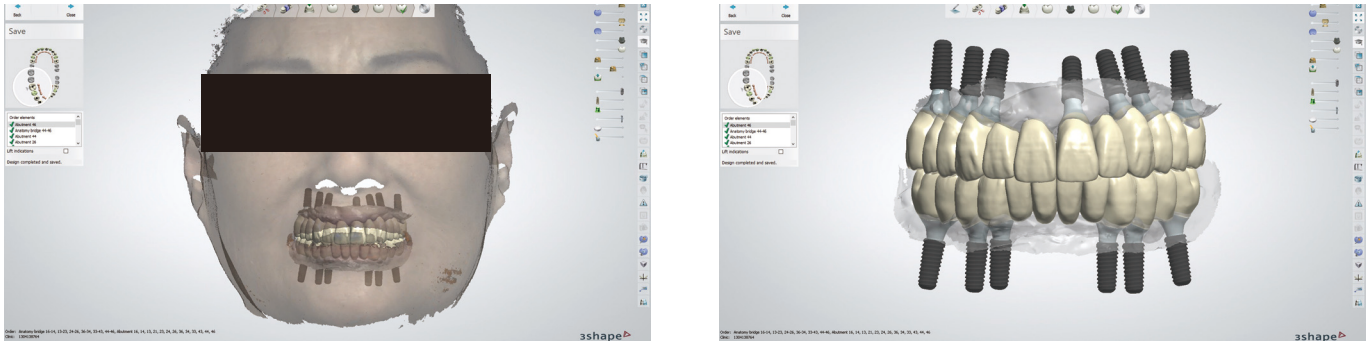


Fig. 22. Modify the midline with consider the physiognomy, modify the size and shape of the prosthesis again

Fig. 23

Fig. 24

Fig. 23 - 24. Check Midline, Occlusal Plane and Exposure quantity of teeth when smile

Occlusal adjustment, gum molding

Fig. 25 a-d. Set the provisional restoration(PMMA) with a little pressure on the pontic area and adjust the occlusion. Adjust to forms appropriate lateral and forward guides, and reflect this shape on the final prosthesis after adjusted

Scannong for final restoration

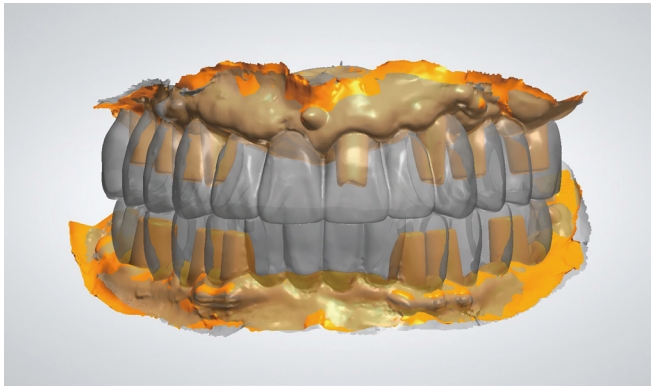


Fig. 26. Temp Prosthesis, Bite and Abutment Scan. Use existing design, and reflect the form of the occlusion adjusted latent prosthesis in the final prosthesis

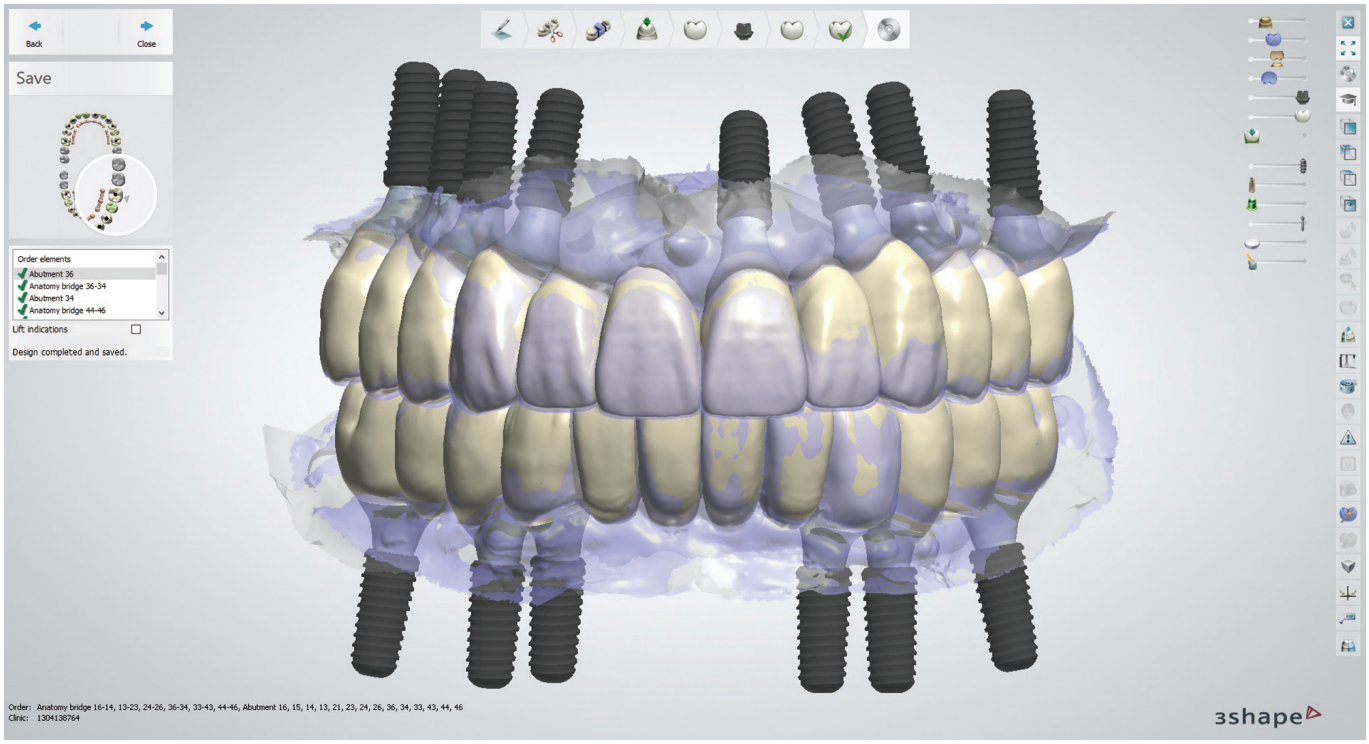


Fig. 27. Adjust the length and shape of the final crown while consider the latent prosthesis with adjusted occlusion

Final set

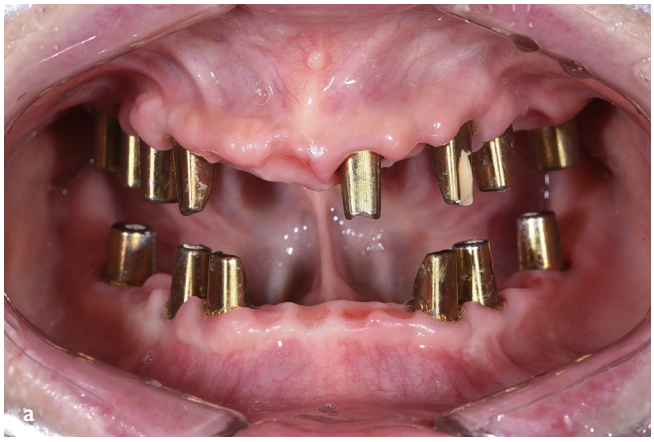


Fig. 28 a-b. Oral Scanning for produce splint after Final Prosthesis setting and occlusal adjustment. (Zircornia Block : Aidite mmb block , Staining : Miyo)

Splint delivery

Fig. 29 a-f. treatment completion after milling splint delivery and occlusal check.

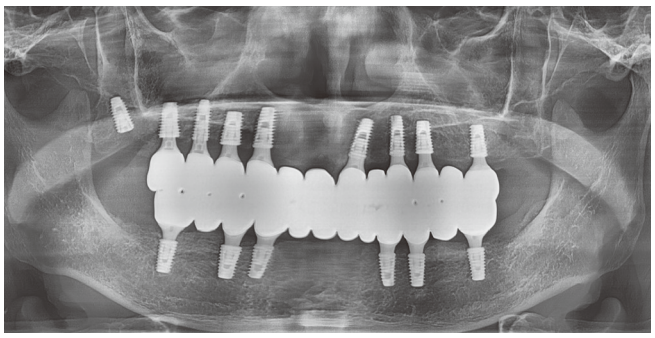
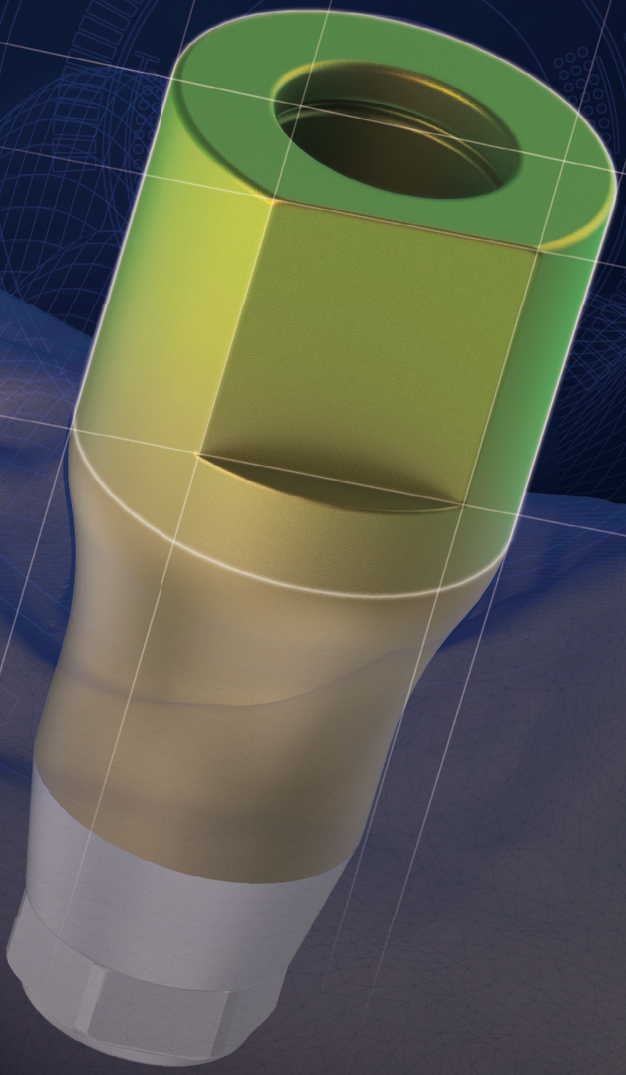


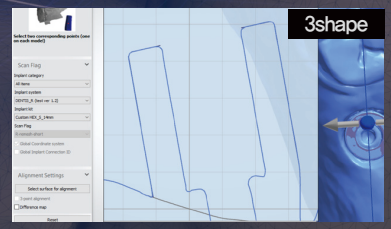
Fig. 30. Final Panorama.

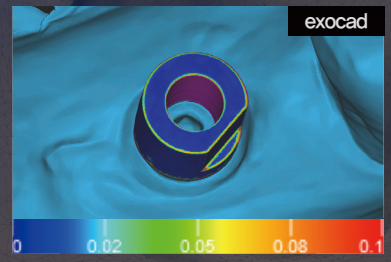
How to cite this article: Baek CH. Implant Full mouth rehabilitation (Digital workflow) *J Clin Digit Dent.* 2023;5(1):17-26. www.jcdd.org

DENTIS ScanBody

Remarkable Accuracy!







스캔데이터와 라이브러리가 일치하는 모습
(손쉬운 정합으로 보철물의 정확도 향상)

DENTIS

고객센터 1899-2804

DWS 2022
Poster presentation

Comprehensive rehabilitation of the patient with congenitally missing permanent teeth.

Shumovskiy Dmitriy, DDS

Introduction

In case of congenitally missing teeth malocclusion and dental malposition of individual teeth are significant. It is not entirely correct to talk about severe atrophy of the alveolar ridge, as it hasn`t formed correctly, due to the absence of adequate occlusal load. Remaining deciduous teeth do not solve a problem, as deciduous teeth in an adult are of inadequate size, heavily worn out
and do not retain space in the dental arch for a full-size crown. The root is usually resorbed, and prognosis is very doubtful. Due to a smaller size of a deciduous teeth, after their extraction, it is necessary to solve the problem of the narrow contour of the alveolar ridge compared to the surrounding tissues. All of these factors complicate implant treatment. Let's see how we did it.

Shumovskiy Dmitriy

More than 15 years of private dental practice.
Regular lectures and teaching activities at various international congresses and symposiums.
Co-founder of the Moscow Discussion Club of Dentists.
Author of publications on surgical techniques in implantology.
Since 2017 - Director of the GDIA in Russia.

Case report

Patient information
Age: 34yr / Sex: female
C.C: adentia in areas of teeth 15, 14, 12, 24, 25, 35, 34, 44 and 45
the presence of deciduous teeth in areas of teeth 14, 12, 24, 33 periapical cyst of the 47, diameter of 8 mm with the capture of the bifurcation of the tooth;
complete destruction and decay of the root of the 37.

Fig. 1 a-e. Pre-op Photo

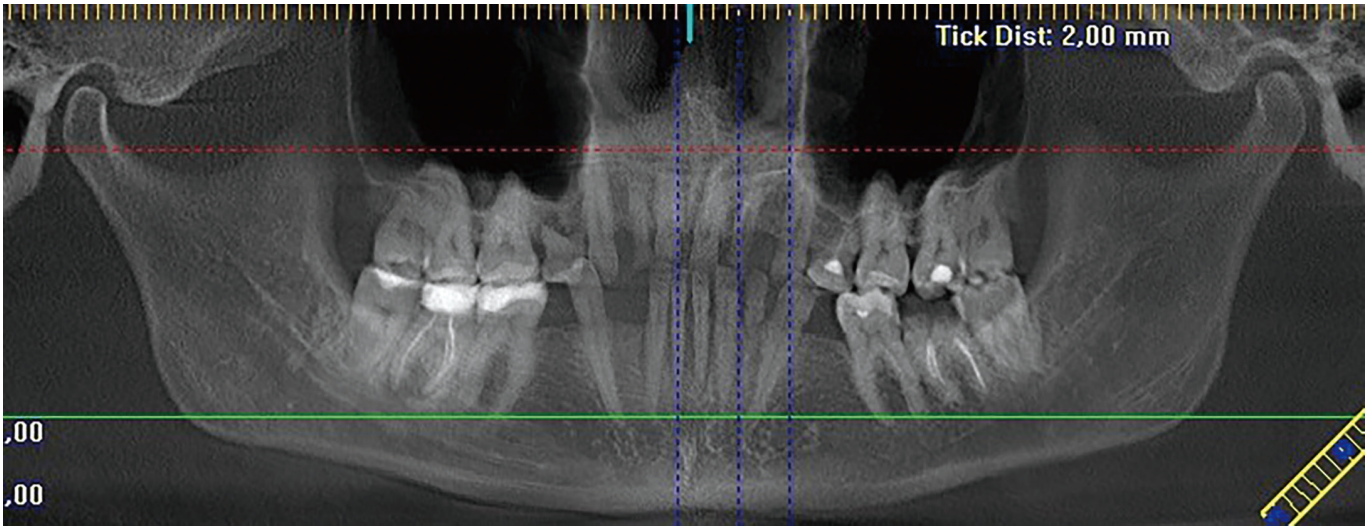


Fig. 2. CBCT, panoramic section

Treatment Plan

1. Extraction of 37 and immediate implants placement. Temporary crown.
2. Orthodontic treatment.
3. Extraction of deciduous teeth and permanent 47 and immediate implants placement.
4. Prosthodontic treatment.

Treatment Procedure. Implant Installation

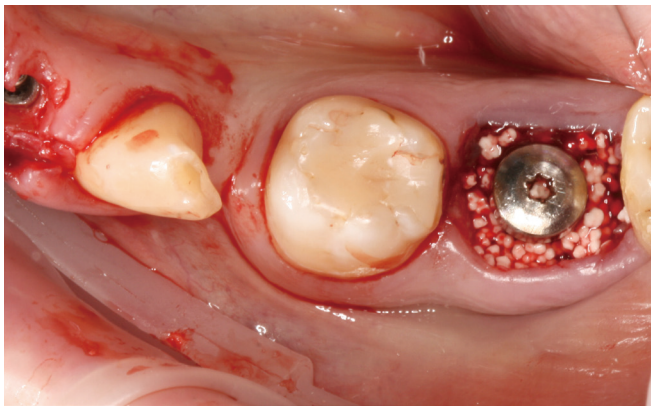


Fig. 3. Implant is placed in the area of 37. Socket is filled in with osteoplastic material.

Fig. 4. Implants and healing abutments are placed in the area of 33 and 43.

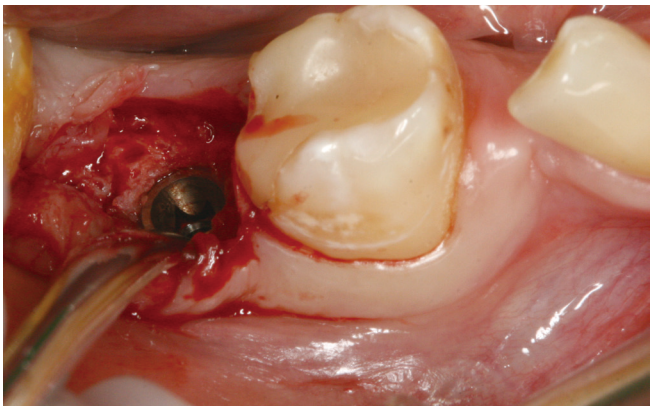


Fig. 5. Extraction of tooth 47 due to the exacerbation of periodontitis. After 4 months implant with immediate loading was placed in the area of 47.

It was decided to extract deciduous teeth and place implants in the edentulous area using surgical guide (SQ Guide navigation kit). Implants were placed in the areas of 14, 25.

Fig. 6. Deciduous teeth are extracted. Surgical guide (14, 25).
Fig. 7. Small CCT right before embedding in the area of upper incisors.

Fig. 6.

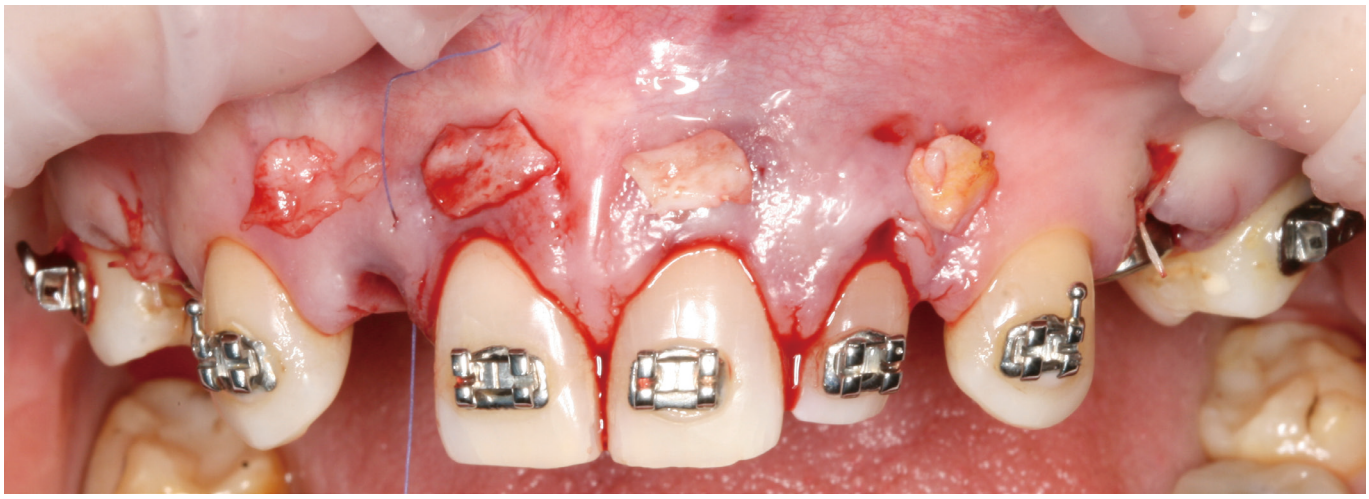
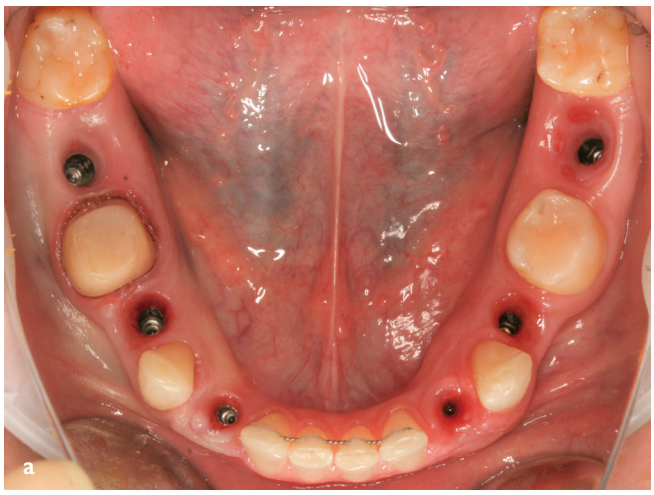


Fig. 7.

Tooth No.	Product	Fixture Size	Tooth No.	Product	Fixture Size
12	OneQ-SL	3.3x10 mm	25	SQ	4.0 x 8 mm
14	SQ	4.0 x 8 mm	43	OneQ-SL	3.3x12 mm
33	OneQ-SL	3.3x12 mm	45	OneQ-SL	3.9x12 mm
35	OneQ-SL	3.9x10 mm	47	OneQ-SL	4.2x10 mm
37	OneQ-SL	4.2x12 mm			

Crown Delivery



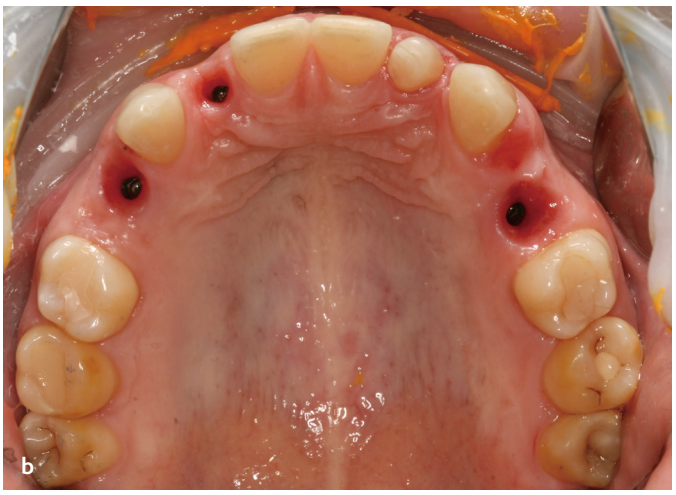


Fig. 8 a-b. Making working impressions.

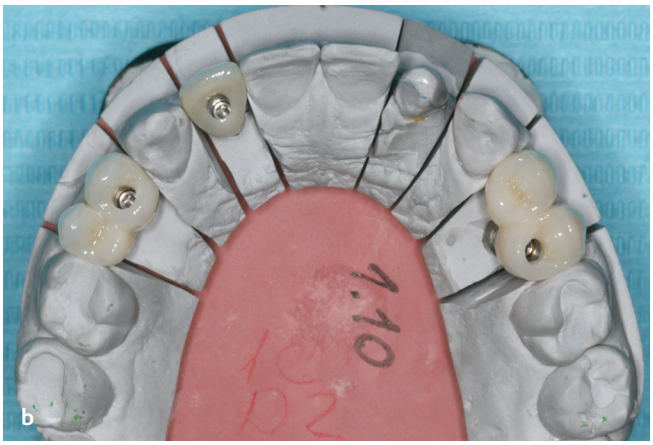


Fig. 9 a-b. Permanent restorations on the cast model.

Fig. 10. Implant retained cantilever prosthesis were manufactured for the area of upper premolars.

Fig. 11a-c. Post-op Photo

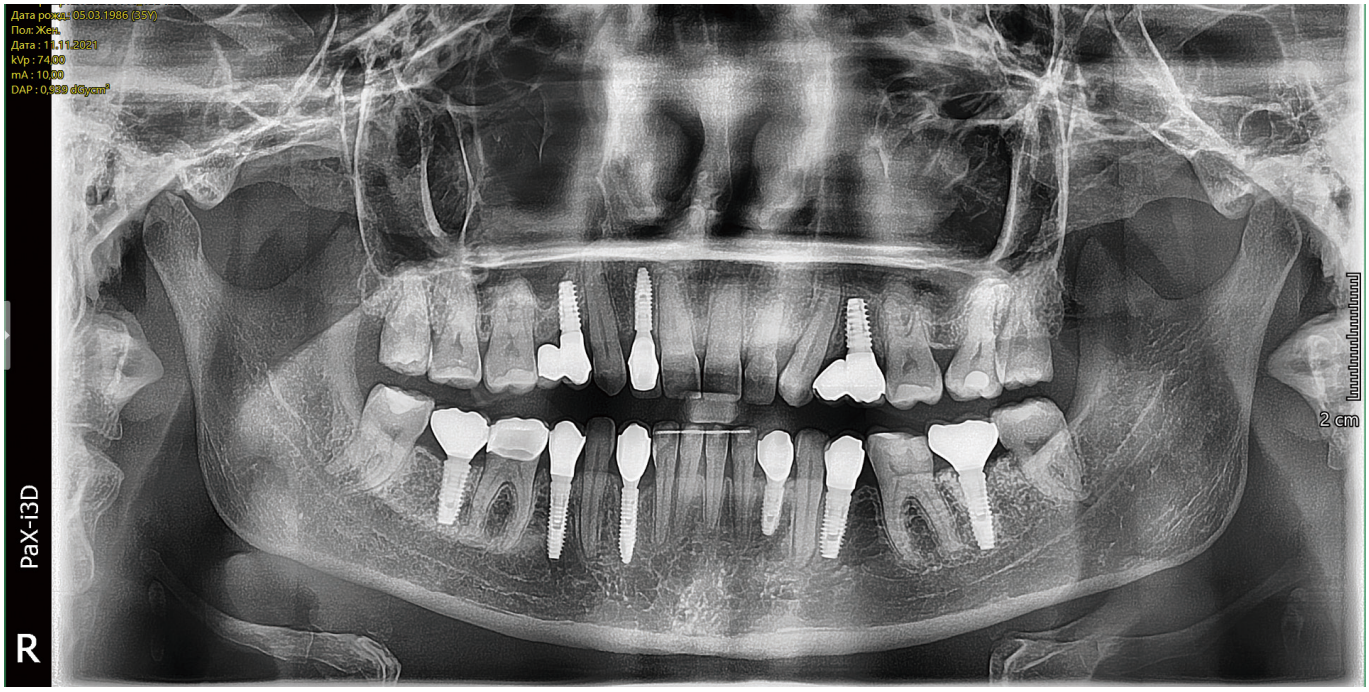


Fig. 12. Panoramic x-ray after treatment

Discussion & Conclusion

I would like to highlight the points which became the key to success: Team approach. Successful results had been achieved by the virtue of teamwork of the orthodontist, therapeutist, surgeon, prosthodontist and dental technician.

The active use of photography, scan data and digital planning allows to plan complexly and carry out the necessary corrections of the treatment plan, as well as it allows appropriate intercommunication among specialist.

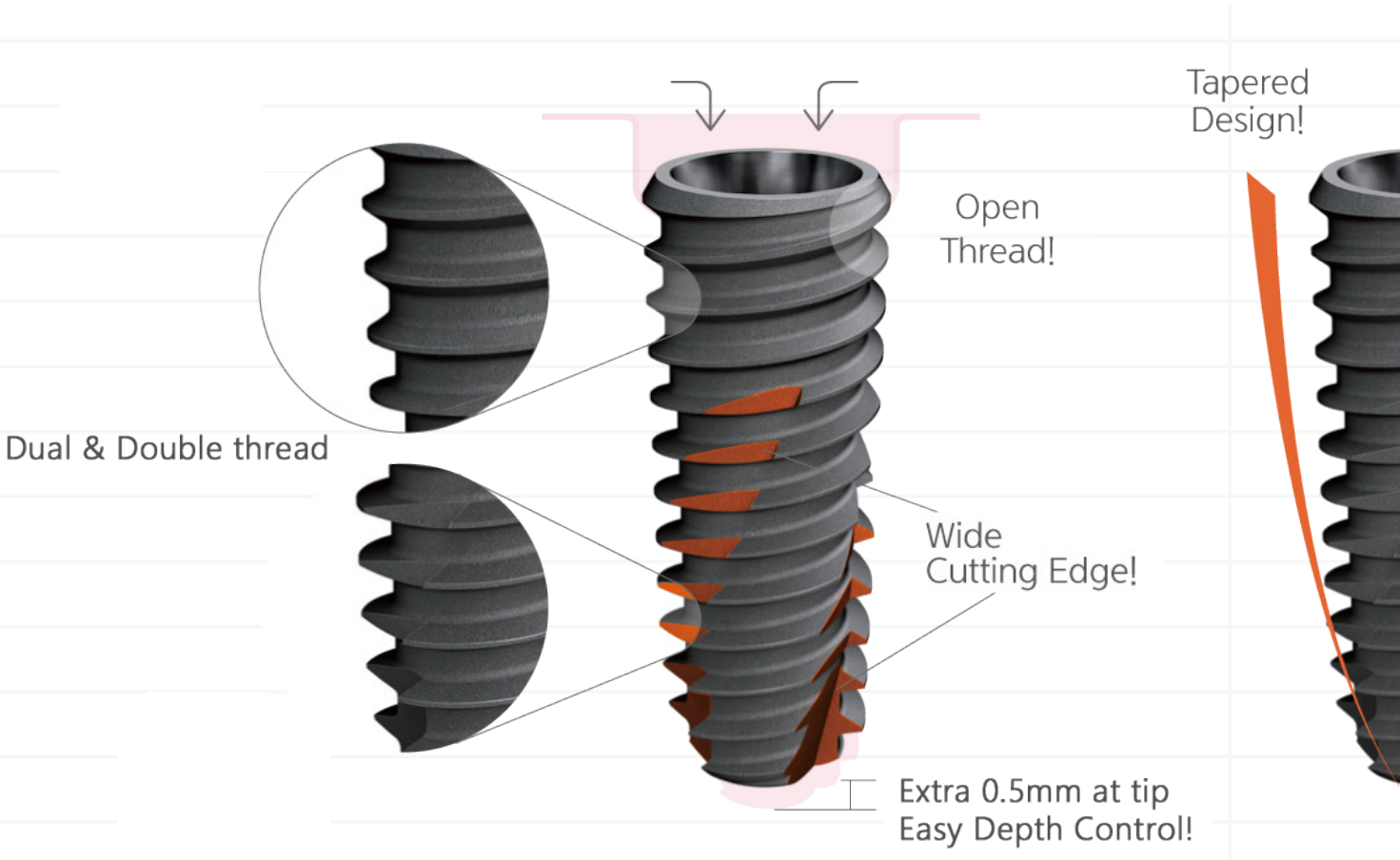
Placement of the implants in the optimal position, taking into account planned prosthesis, occlusion, the location of the screw shaft, the shape of the atrophied alveolar ridge and the adjacent roots, as well as their convergence, became possible by the virtue of surgical guide.

A wide range of available implants from Dentis allowed to choose fixtures of optimal size, length and diameter in each area. The external design and coating made possible immediate provizionalization in the esthetically significant area. For example, SQ implant line, which have a more "aggressive" design, were placed in the area of upper premolars, allowed to achieve a good primary stabilization, while implants from OneQ-SL line, which were placed I the areas of 12, 33 and 43, allowed graftless solution in a conditions of a narrow alveolar ridge in the front area.

How to cite this article: Shumovskiy Dmitriy. Comprehensive rehabilitation of the patient with congenitally missing permanent teeth. *J Clin Digit Dent.* 2023;5(1):28-34. www.jcdd.org

Supreme Implant

It's SQ



DENTIS GDIA

DWS 2022
Poster presentation

Alternative options for overdentures using few anterior implants : Fixed bridge & Implant-assisted removable partial denture

Nakyung Lim, DDS, MSD

Introduction

Overdenture is considered a popular treatment option for edentulous patients. With the help of various attachments, such as milled bar, ERA, locator, magnet, overdentures provide improved retention and stability compared to conventional complete dentures. However, due to structural and mechanical limitations of these attachments, biomechanical complications occur in long-term usage. Replacing overdenture with fixed bridge and implant-assisted removable partial denture may be considered a preferable alternative.

Nakyung Lim

DDS, Wonkwang university, college of entistry
MSD, Dankook university, college of dentistry
Ewha womans university seoul hospital, Department of prosthodontics, Fellow

Jangseop Lim

DDS, Pusan National University School of Dentistry.He received MSD and PhD in his almamater.
- Associate Professor, School of Dentistry, Pusan National University,,2005
- Head Director of Odyssey Dental Clinic,,2008
- Inje University Haeundae Paik Hospital Dentistry Chief,,2018
- Inje University Haeundae Paik Hospital Prosthetics Professor, 2018

Case Report

[Case 1]

Patient information

Age: 67 / Sex: Female

Four implants were placed in the upper and lower anterior jaw each at a local clinic.

Overdentures were fabricated using Bar & Clip attachment and ERA.

After 4 years of use, the upper abutment screw and the lower ERA female part were fractured.

Soft tissue hyperplasia and poor oral hygiene below bar attachment were observed. Patient complained about bad breath.

Artificial teeth abrasion caused collapse of vertical dimension, masticatory degradation and displeasing esthetics.**(Fig. 1-8.)**

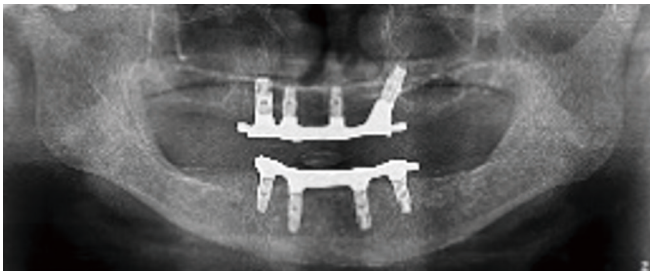


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Treatment procedure

Customized abutments fabricated using CAD/CAM system.
Checked for passive adaptation of milled PFM bridge metal framework.
Surveyed PFM Bridges were placed in the upper and lower anterior area.
Implant-assisted RPD were placed in the upper and lower posterior area.
(Fig. 9-16.)

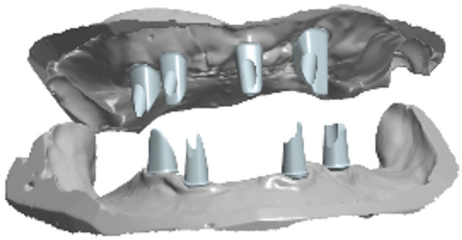


Fig. 9.

Fig. 10.

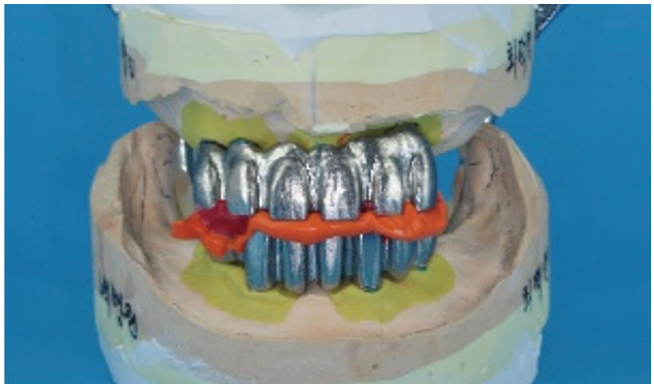


Fig. 11.

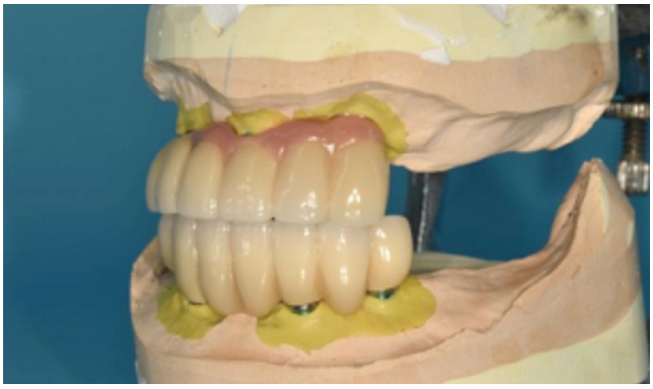


Fig. 12.

Fig. 13.

Fig. 14.

Fig. 15.

Fig. 16.

[Case 2]

Patient information

Age: 79 / Sex: Male

Four implants were placed in the upper anterior jaw and two implants were placed in #44, 45 site at a local clinic.

Overdenture with magnetic attachment in upper jaw, removable partial denture with magnetic attachment in lower jaw were fabricated.

After 3 years of use, the upper right magnetic assembly was dislocated, and a crack line was visible in the overlying area of overdenture.

Lower left natural teeth showed mobility and lower right artificial teeth were worn out and fractured.

Patient complained about difficulty in chewing.

(Fig. 17-24.)

Fig. 17.

Fig. 18.

Fig. 19.

Fig. 20.

Fig. 21.

Fig. 22.

Fig. 23.

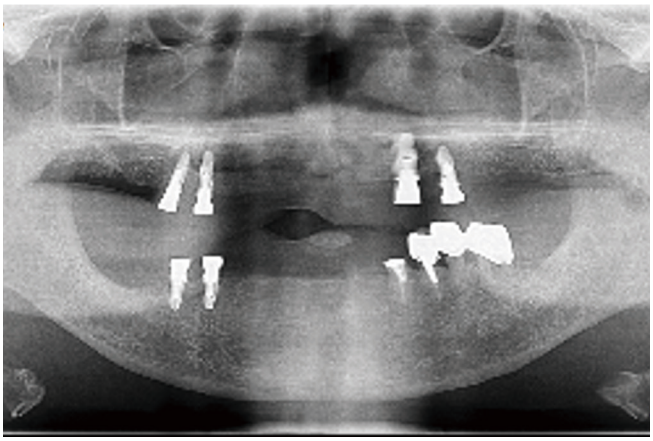


Fig. 24.

Treatment procedure

9-unit surveyed PFM bridges were placed in the upper jaw.
After extraction of #33, #32i-33i implantation was done for additional abutment implants. Temporary restorations were placed on #44i-45i implants during healing period.
After 3 months, 7-unit surveyed PFM bridge were placed in the lower jaw.
Before fabricating Implant Assisted RPD, patient was satisfied with present condition ("I can chew better now than I did with my old dentures").
Patient is undergoing routine check-up and no pathologic signs or complications were found. **(Fig. 25-30.)**

Fig. 25.

Fig. 26.

Fig. 27.

Fig. 28.

Fig. 29.

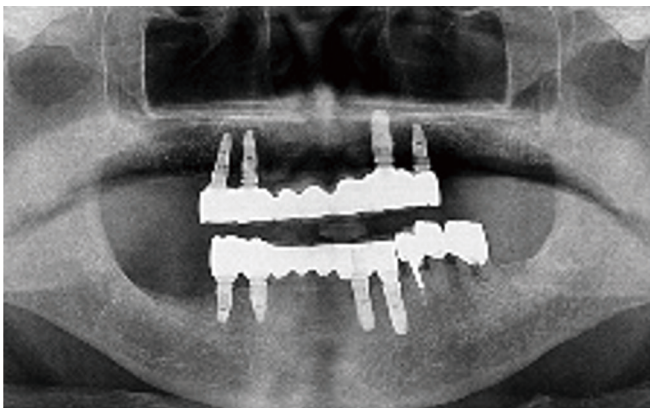


Fig. 30.

Conclusion

Replacing overdenture with fixed bridge and implant-assisted removable partial denture has many advantages. Occlusal vertical dimension is easily maintained with fixed implant prostheses in long-term usage. Also, fixed implant prostheses show improved masticatory efficiency and esthetics, thus increase patient satisfaction. To minimize biomechanical complications and secure long-term success, precise implants placement and prosthetic restoration are crucial.

How to cite this article: LIM NK. Alternative options for overdentures using few anterior implants : Fixed bridge & Implant-assisted removable partial denture. *J Clin Digit Dent.* 2023;4(3):36-41. www.jcdd.org

SAVE RIDGE KIT

Ridge Kit & Instruments

Enough expansion
with Chisel

Easy expansion
with Expander Drill

Excellent stability
of Implant

DENTIS

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DWS 2022
Poster presentation

Full mouth rehabilitation by implant supportedfixed composite prosthesis of a patient with orthopedics instability

Marcu Cristian, DDS

Introduction

Full mouth rehabilitation in patients with orthopedic instability and high muscle load is often challenging as a result of the loss of proprioception.

Case Report

The case below describes the management of a 68-year-old man with a history of loss of occlusal vertical dimension and a compromised dental function.The patient was treated with dental implants and press composite over screw retained titanium structure on Multi Unit Abutment (observe the same radio opacity with the implants due to same material **Fig. 2**)

Fig. 1. Pre-op Radiography

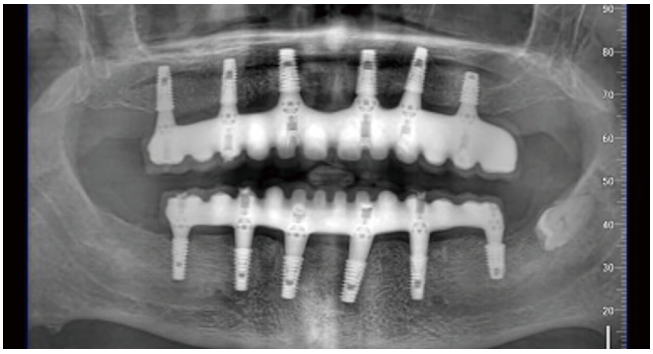

Fig. 2. Post-op Radiography

Marcu Cristian

- DDS, Rumania
- Head director, Clinica i.Dentist –Dr. Marcu
- UMF "Victor Babes" Timisoara, Facultatea de Medicina Dentara

Moldovan Madalina & Ciorbea Tudor

Co-author

Treatment Procedure

After the final restorations were put in place, the patient was indicated to where a splint to relax the muscles and protect the prosthesis. In the first two weeks he wore the splint only occasionally, so he came back with damaged prosthetic **(Fig. 10)** At this moment he understood the importance of the splint. We have easily repaired the prosthesis and once again explained the importance of the splint wearing.

After two more weeks the patient came again with cracked 3D printed splint **(Fig. 9)** but with intact prosthesis. We have registered one more time the centric relation in which we made a new milled splint. After six more months, the patient came to follow up without any problems.

Tooth No.	Product	Fixture Size	Torque
#16	OneQ-SL	Ø4.7x10mm	40N
#14	OneQ-SL	Ø4.2x10mm	35N
#12	SQ-SL	Ø4.0x10mm	15N
#22	OneQ-SL	Ø4.2x10mm	45N
#24	OneQ-SL	Ø4.2x10mm	45N
#26	SQ-SL	Ø4.5X7mm	20N
#36	OneQ-SL	Ø5.2x8mm	50N
#34	OneQ-SL	Ø4.2x10mm	55N
#32	SQ-SL	Ø4.0x10mm	55N
#42	SQ-SL	Ø4.0x10mm	55N
#44	SQ-SL	Ø4.5x10mm	55N
#46	SQ-SL	Ø4.5x10mm	55N

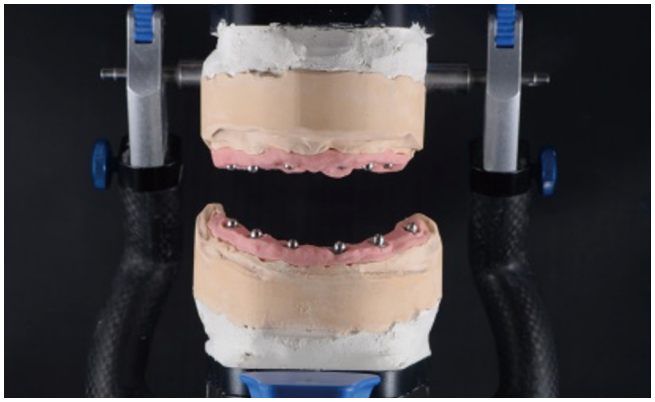

Fig. 3. Centric relationship in articulator

Fig. 4. Centric relationship

Fig. 5. Intraoral maxilary MUA

Fig. 6. Intraoral Mandibular MUA

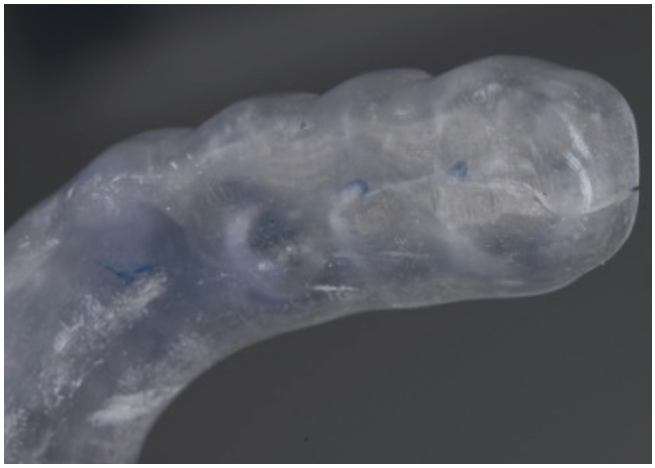

Fig. 9. 3D printed splint with crack

Fig. 11. Repaired restorations

Fig. 7. Intraoral restorations

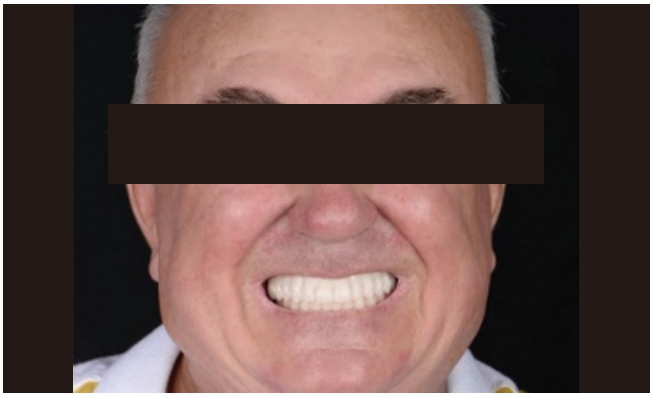

Fig. 8. Milled PMMA provisionals

Fig. 10. Damaged restorations

Fig. 12. 6 months recall

Discussion

A very problematic thing on these kinds of rehabilitations is that the patients loses all of their proprioception and in combination with some very powerful muscles the problems are only a mater of time to appear. We can choose where to put the safety line. The main focus is to make the patient understand his situation. We have to work together with the patient to relax the muscles, we can use splints, physiotherapy or even Botox treatment. We can use composite restorations which nowadays are so much better and have a lot of advantages, they are very esthetic, they have a very god flexural strength, they have a very appropriate hardness to natural teeth but the most importan,t they are very ease to repair. So, if the patient forgets to where the night splint, the composite can brake after a while and the patient will come back to us for maintenance, but the most important the foundation will resist for a very long time.

Conclusion

Always have in mind the power of the muscles and the lack of proprioception and do not try to make something stronger than them, in the end something will break, and we will have to repair it. It's better to anticipate, perform easily removable prosthetics (M.U.A.) and make the patient understand the implant supported prosthetics have to be maintained, and always try to keep (if it's possible) even one tooth so the patient can have some proprioception and protect the prosthetics.

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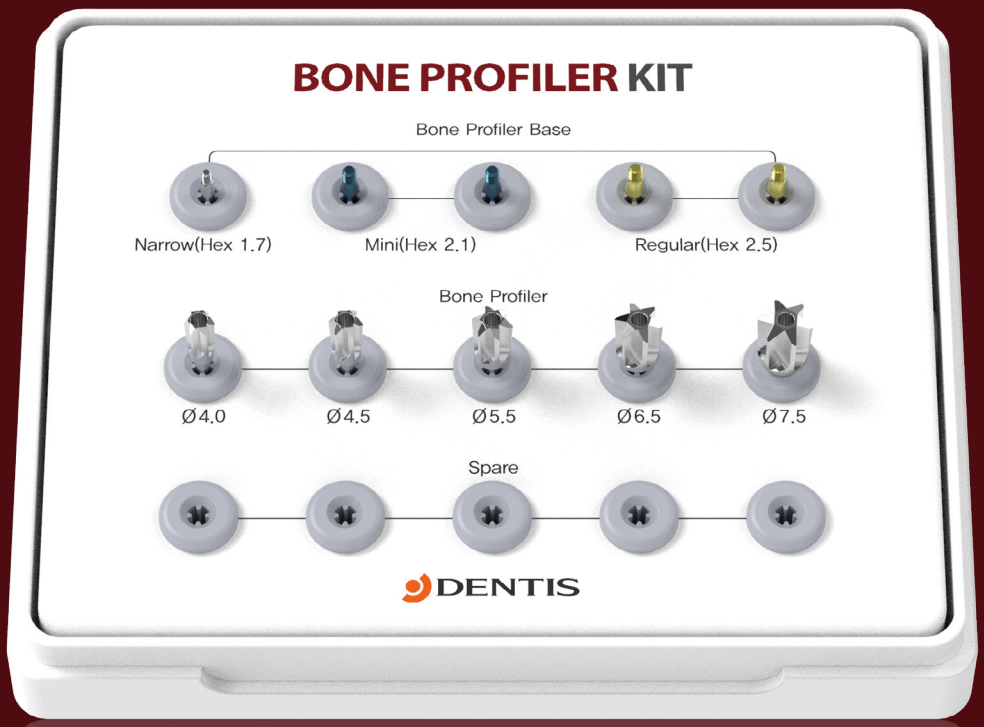
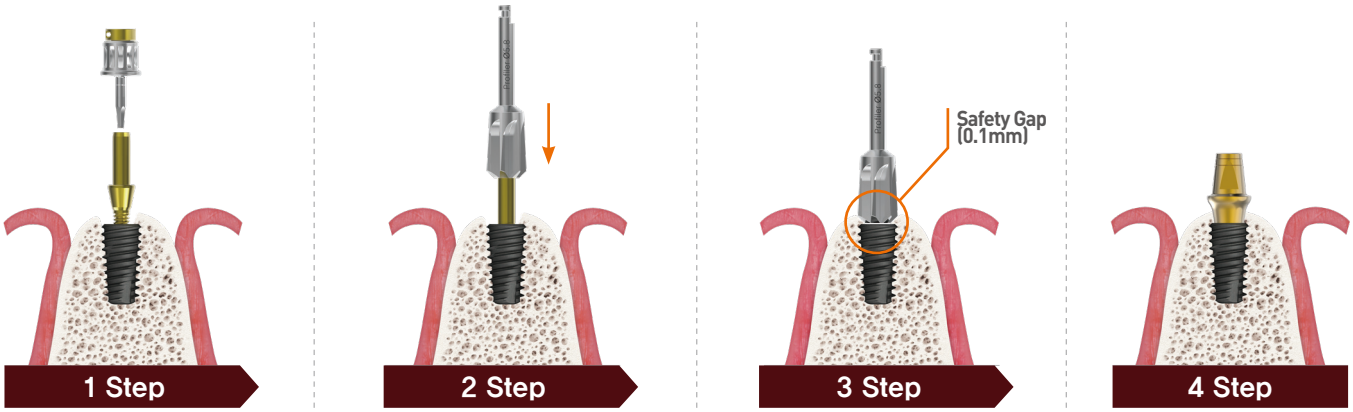
Remove bone safely without any damage on Fixture!

BONE PROFILER KIT



NO! *Stress ! Fixture Damage ! Interference !*



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DWS 2022
Poster presentation

Screw-retained overdenture with fixation on 5 MUA abutments as the optimal solution for full arch rehabilitation under the conditions of time-saving and reduction of total cost of the treatment.

Vitaliy Danilenko, DDS

Introduction

Current highly developed dental implantology allows full-mouth rehabilitation of edentulous patients with immediate temporization. Thus, patient is able to get his denture in a shortest possible time.

Vitaliy Danilenko

- Practicing dentist since 2008.
- Leading specialist for complex dentoalveolar prosthetics.
- High class specialist. Member of the Kuban Scientific School of Dentistry.
- Author of scientific papers in the field of orthopedic dentistry, presented in Russia and abroad.

Vyacheslav Kvashov

- Co-author
- dentist implantologist.
- OOO «АСКАМ»„ Russian Federation

Case Report

[Case 1]

Patient information

Age: 53, Sex: male

C.C: Patient complained about loss of teeth, oral cavity discomfort, difficulties chewing food. Moreover, there were severe tooth loosening and Inflammation.

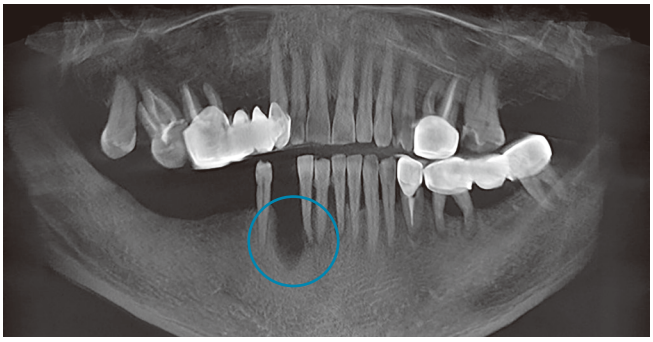

Fig. 1. CBCT pre-op

Fig. 2 a-d. Clinical picture at the initial comprehensive oral examination

Treatment procedure

1. Upper jaw: Extraction of teeth 16, 17, 18 and 26
2. Carrying closed sinus floor elevation in the area of 16.
3. Immediate Implant Installation in the area of teeth 14 and 16 , suturing
4. Five month later healing caps were placed.

Tooth No.	Product	Diameter	Lenght
14	OneQ-SL	3.9	10
16	OneQ-SL	4.2	8

Fig. 3.

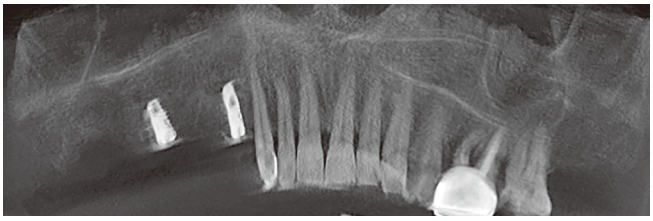

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 3-6. Pre- and post-op x-rays and photos of upper jaw

5. Lower jaw: Two weeks later 8 teeth were extracted. Extraction follows by immediate placement of 5 implants in the area of 31, 33, 35, 42, and 45 teeth. Followed by MUA abutments placement

Tooth No.	Product	Diameter	Lenght
31	OneQ-SL	3.9	10
35	OneQ-SL	3.9	12
42	OneQ-SL	3.9	12
45	OneQ-SL	3.9	12

Fig. 7 a-b. Post-op photos of lower jaw

6. Impressions, for manufacture of dentures, were taken immediately after implants placement. **(Fig. 8)**

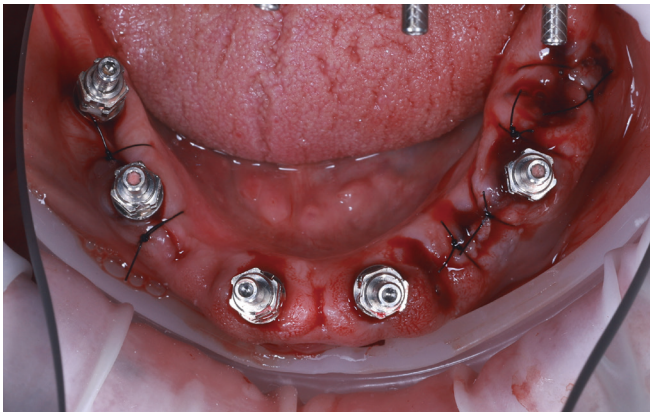

Fig. 8.

After 48 hours, patient received temporary fixed denture made of PMMA. Next appointment was scheduled in a 5 month. **(Fig. 9)**

Fig. 9 a-e. Temporary fixed denture for the lower jaw.

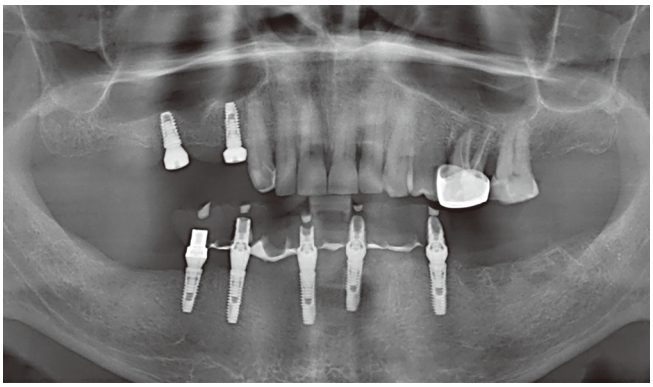

Fig. 10. CBCT scan 5 months later. A severe bone loss on the lower jaw is gone.

Fig. 11. The crowns subframe try-in.

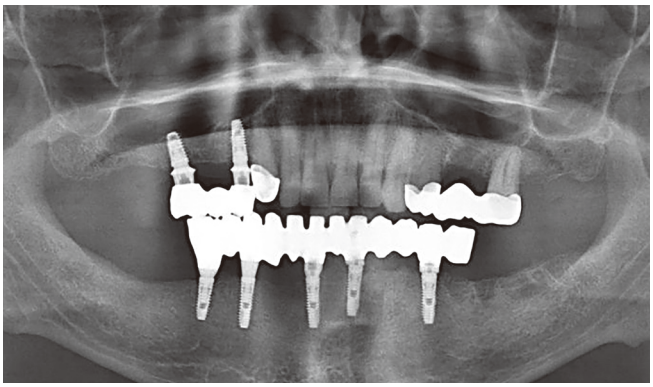

Fig. 12. Bite control. An x-ray.

Fig. 13.

Fig. 14.

Fig. 15.

Fig. 13-15. Lower jaw. Before and after fixation of permanent denture.

Fig. 16.

Fig. 16-17. Rehabilitation on implants. Before and after.

Fig. 17.

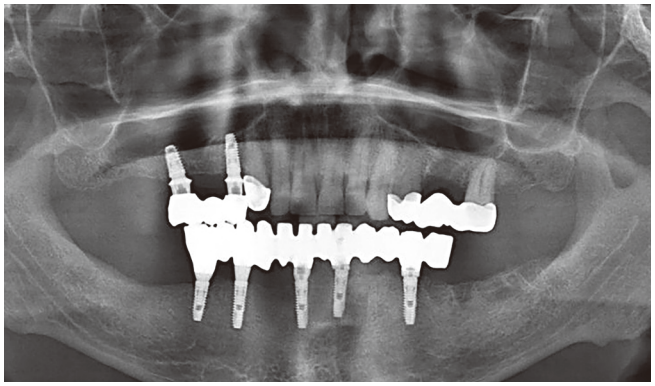

Fig. 18. X-ray control immediately after the fixation of a permanent denture.

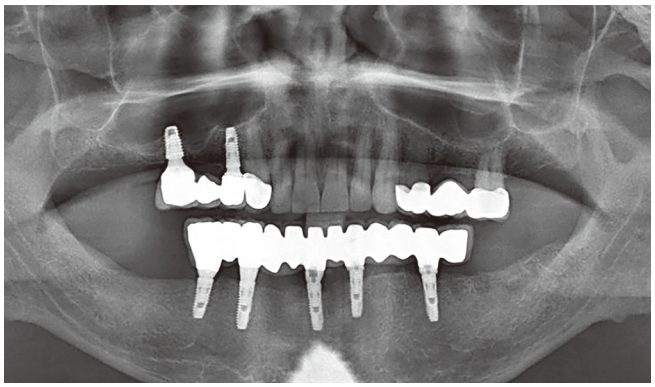

Fig. 19. X-ray control after 1.5 years.

Fig. 20. Final result. jaw is gone.

Conclusion

In this clinical case were used implants OneQ-SL, Dentis. It allowed to significantly reduce total cost of the treatment, compared to premium segment analogues.

Furthermore, specific features of the OneQ-SL macro design, provide high primary stability necessary for immediate loading.

What is also worth noting is intuitively comprehensible surgical protocol and high placement rate. Total placement time of 5 implants took less then 1.5 hours. It allowed to minimize trauma, oedema and painful sensation in a post-surgery period.

We were able to fix permanent overdenture on the lower jaw using only 5 MUA abutments. The use of MUA abutments for fixing the overdenture has a number of advantages. All elements can be easily placed or removed, due to the screw-retained fixation, which allows to avoid damage of the thread of the implant or loosening it. Thus, it prolongs the life of overdenture.

We are very pleased with the result of the treatment and wish our patient to enjoy his new smile!

How to cite this article: Vitaliy Danilenko. Screw-retained overdenture with fixation on 5 MUA abutments as the optimal solution for full arch rehabilitation under the conditions of time-saving and reduction of total cost of the treatment. *J Clin Digit Dent.* 2023;5(1):48-53. www.jcdd.org

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7. 1 – 9	ALL PLUS+ Surgery (풀마우스) Hands-on Seminar	전인성	3회차

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보철

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2. 25 – 3. 26	아름답고 기능적인 총의치 정복	노관태, 장원건	4회차
6. 18	지대치 삭제, 최소한 이것만은	이승규	1회차

보존

6. 11	한국치의임상 Field Manual : 엔도, 레진편	이창훈, 최민식	1회차

교정

2. 4	개원의에게 필요한 부분 교정	박철완	1회차

개원

5. 27	개원 N년차에게 듣는 리얼 개원 이야기 : 입지, 인테리어편	김문규, 황성익	1회차
6. 24	개원 N년차에게 듣는 리얼 개원 이야기 : 지출, 직원 관리편	김문규, 황성익	1회차
7. 8	개원 N년차에게 듣는 리얼 개원 이야기 : 경영, 마케팅편	박상훈	1회차

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3. 13 – 4. 17	BOOK CLUB : 교합 완전 정복	장원건	4회차
4. 5 – 26	BOOK CLUB : 병의원 개원일지	강익제	4회차

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3. 29	OLIVE : 2023년 트렌드 키워드, RABBIT JUMP	이준영	1회차
4. 27	OLIVE : 인재를 관리하려면, 일하는 방식이 바뀌어야 합니다.	강승훈	1회차
6. 29	OLIVE : 2023 공간 디자인 트렌드	박성미	1회차
8. 31	OLIVE : 치과의사가 유튜브를 시작한 이유는?	박재성	1회차

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