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中華民國贋復牙科學會
Journal of Prosthodontics and Implantology

Editorial

Are We Marginalized ?

The Journal of Prosthodontics and Implantology is the official journal of Academy of Prosthetic Dentistry, R.O.C. The goal of this official publication is to connect our Academy with the prosthodontic colleagues in the other parts of the world and to become an international journal in the future. However, this goal would be very difficult to achieve without the support of our academy members.

We are always proud of Taiwan's leading technology and dental education in Asia, but our academy leaders might have to reconsider the future of this academy if we are still considering converting the Academy and the Journal internationally. The Japanese Society of Prosthodontics (JSP) has published 57 volumes of their official journal" Journal of Prosthodontic Research" in 2013. The Korean Academy of Prosthodontics (KAP) has published 51 volumes of "Journal of Korea Academy of Prosthodontics" in Korean and 5 volumes of "Journal of Advanced Prosthodontics" in English. JSP, KAP, and Chinese Prosthodontic Society had their 4th Biennial Joint Congress (BJC) in Jeju Korea in this April. The webpage of BJC indicates "BJC represents the specialists and specialty of prosthodontics in Asia". We (Academy of Prosthetic Dentistry, R.O.C.) are marginalized gradually in the international prosthodontic communities if we cannot recognize our situation and reverse the condition.

In this issue, five manuscripts featuring three case reports and two technique reports are included. A method of treating a missing lower incisor with limited bucco-lingual space was described and a patient with severely worn teeth and missing teeth was rehabilitated successfully with a maxillary complete overdenture and mandibular fixed and removable prostheses. A retrograde peri-implantitis was treated successfully with several surgical interventions. Techniques of fabricating an implant surgical stent and fabricating complete dentures in fewer appointments were presented in the two technique reports. We appreciate the efforts of all the authors and reviewers to make this issue possible.

As the Editor-in-Chief stated in the first issue, we are not completely satisfied. Hopefully, the journal will get the support from our academic members and become better in the near future.

Li-Deh Lin
Associate Chief Editor

Case Report

Mandibular incisor implant with limited bucco-lingual space: A case report

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Abstract

This case report presents a 21-year-old female patient with a congenitally missing mandibular lateral incisor. After orthodontic treatment to create adequate space, a narrow diameter implant was placed. Because the screw-access hole was on the incisal edge, a screw-retained crown was contraindicated due to esthetic compromise. However, if a cement-retained type crown were used, the lingual contour would be bulky. Thus, we designed a composite cement-retained, implant-supported prosthesis composed of a UCLA abutment and a porcelain-fused-to metal (PFM) veneer for optimal esthetics and function..

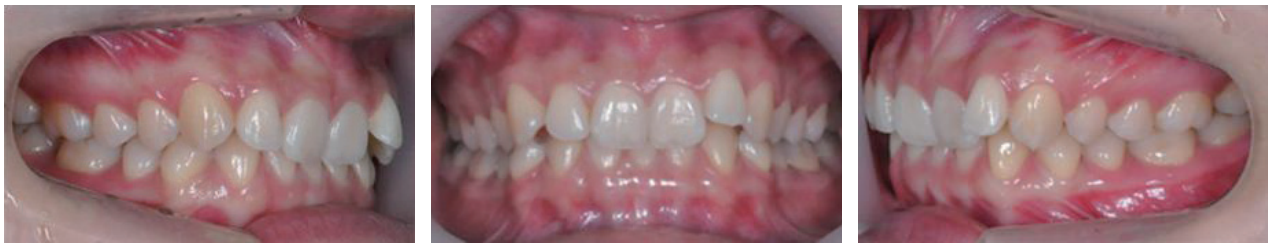
Keywords: mandibular incisor implant, narrow diameter implant, cement-retained, limited bucco-lingual space

Introduction

The replacement and restoration of a missing single tooth with dental implants is now a routine procedure.[1,2] Implant-supported restorations can be classified into anterior and posterior restorations. In the latter, emphasis should be placed on function, but the high visibility of anterior restorations makes esthetics a priority.[3] An implant restoration may be screw- or cement-retained. In a screw-retained restoration, the screw provides a solid connection between the restoration and the implant abutment, or between the restoration and the implant itself. The key advantage of screw-retained prostheses is its retrievability, while the main disadvantage is the poor esthetic of the necessary access hole, particularly in the mandible.

Cement-retained prostheses offer the advantages of improved esthetic value and more facile fabrication compared with screw-retained prostheses. The prosthetic techniques for cement-retained prostheses are the same as those used for natural teeth. Additionally, the components used for this type of prosthesis are less expensive than those used for screw fixation.[4] However, it is difficult to salvage a restoration from a cemented design, and there is a risk of peri-implant inflammation caused by cement residues.

In this case study, we examined the replacement of a mandibular lateral incisor with a narrow diameter implant. Because of the small size of the lateral incisor, we designed and modified a cement-retained prosthesis comprising a UCLA abutment with a fully lingual appearance, and a por-



a b c

Fig.1 Intraoral findings
a. Right-side view showing Angle's Class I molar relationship
b. Frontal view showing deep bite and tooth 22 block-out and tooth 32 missing
c. Left-side view showing Angle's Class I molar relationship

celain-fused-to metal (PFM) veneer to meet the esthetic and practical needs of the patient.

Case report

A 21-year-old female patient, who complained about tooth 22 block-out and lower dental midline deviation resulting from the absence of tooth 32, attended the orthodontic department of Kaohsiung Medical University Hospital for dental treatment in May 2010. No major systemic diseases or drug allergies were reported. Extraoral examination revealed a straight profile with ovoid facial form. Intraoral examination revealed an Angle Class I malocclusion with maxillary anterior crowding, and a missing tooth 32 (Fig. 1). The proposed treatment plan, with full arch leveling, alignment, and regaining of the tooth 32 space for implant restoration, was accepted by the patient in June 2010.

After 2 years of orthodontic treatment, a space 5.5-mm wide was created for tooth 32. One 3.3 x 13 mm endosseous implant (MIS® SEVEN) was placed at the 32 site by a periodontist in March 2012 (Fig. 2). After 4 months of healing, the fabrication of the prosthetic res-

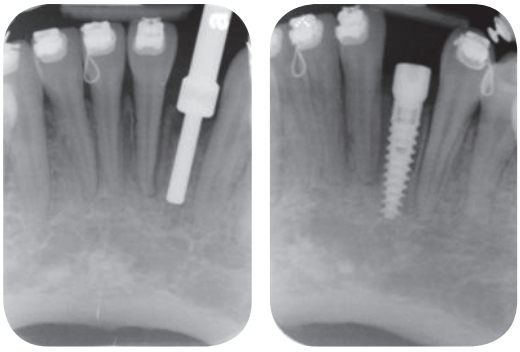


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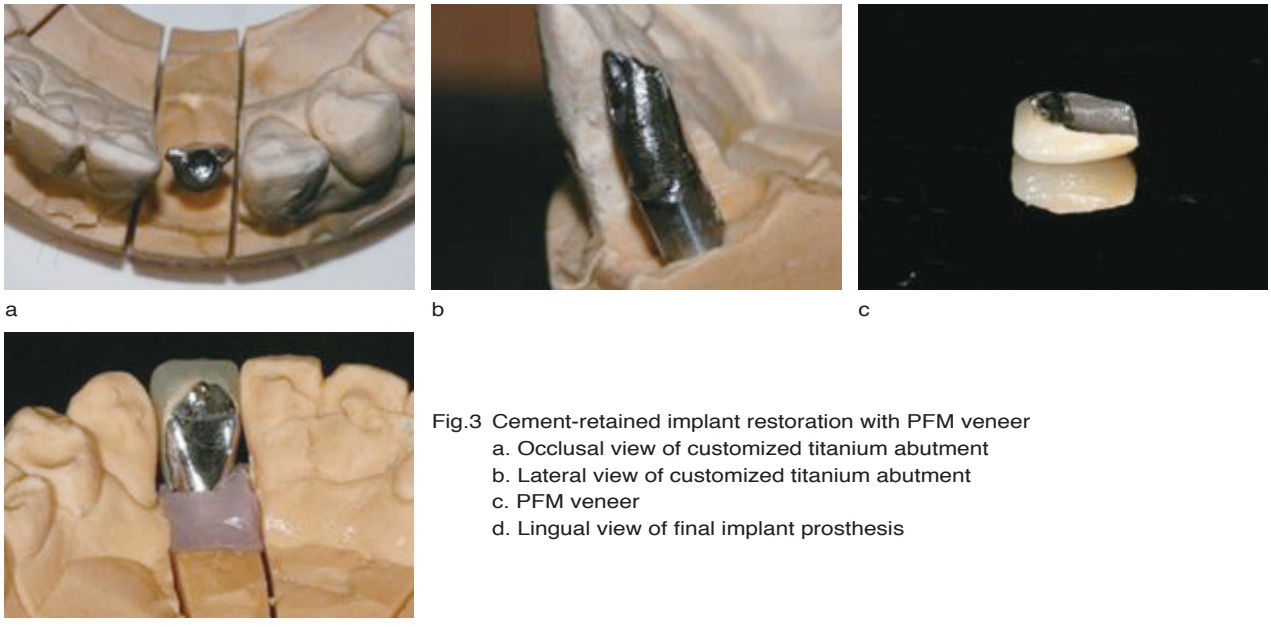
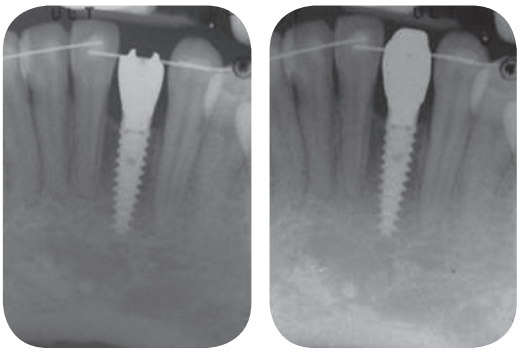
Fig.2 Periapical films of implant placement
a. Use guide pin to check axis of implant during surgical procedures
b. 3.3x13 mm implant was placed



a b c d

Fig.3 Cement-retained implant restoration with PFM veneer
a. Occlusal view of customized titanium abutment
b. Lateral view of customized titanium abutment
c. PFM veneer
d. Lingual view of final implant prosthesis



a b

Fig.4 Periapical films of metal try-in
a. Verify abutment fitness with implant
b. Verify metal framework fitness

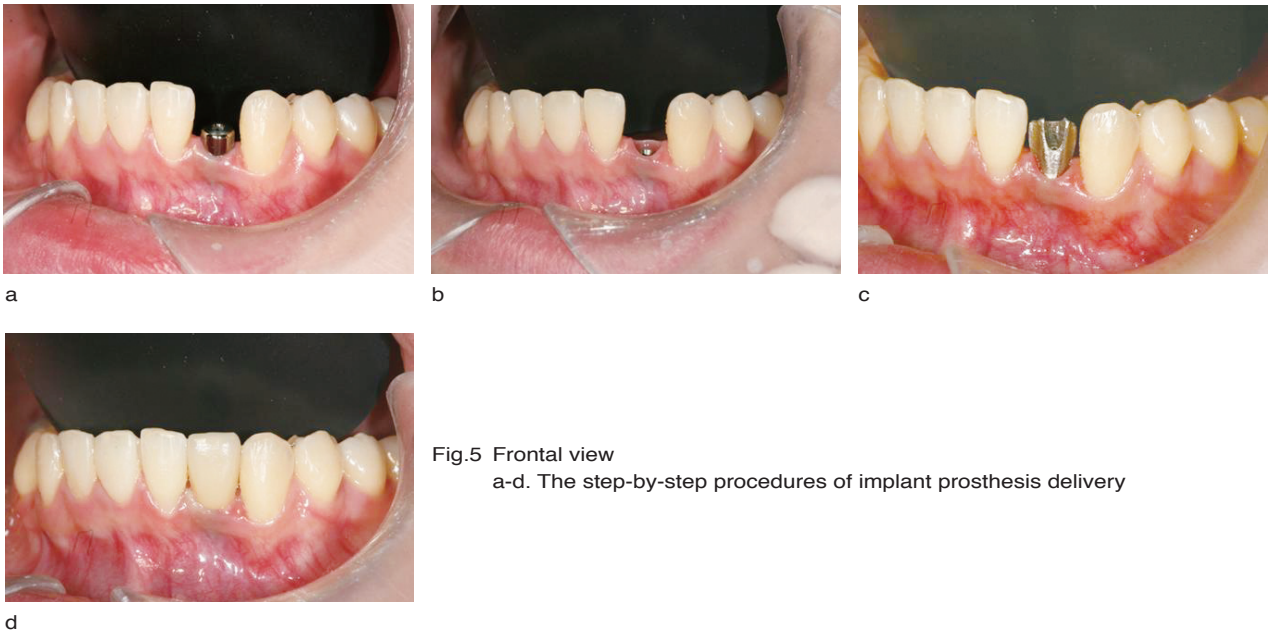
toration was begun during December 2012. An implant-level impression was conducted with a custom tray and polyether (ImpregumTM, 3M ESPE), using the closed tray impression technique. The definitive cast was fabricated from a soft tissue moulage and type IV die stone. The maxillomandibular relationship was obtained by using a facebow, and from bite records. Casts were mounted on a semi-adjustable articulator.

The screw-access hole emerges from the incisal edge, thus, a screw-retained PFM crown design is inadequate for esthetic reasons. Moreover, tooth 32 was both mesio-distally and bucco-lingually small, so we designed a modified prosthesis, which was a cement-retained restoration with a PFM veneer (Fig. 3). One UCLA abutment was used, and tooth 32 was fully waxed-up. The waxed crown was cut back to ensure adequate porcelain veneer thickness. The abutment was cast using the lost-wax technique, then set, and the fitness of metal framework was verified by using a periapical film (Fig. 4). The final prosthesis was colored using shade VITA A3 for the incisal two-thirds of the tooth, and A3.5 for the cervical region.

During delivery of the final prosthesis in February 2013, the healing cylinder was first removed and the abutment was tightened into place until 35 N/cm torque was achieved. The screw hole was filled with gutta-purcha and composite resin. The veneer was set onto the abutment and the occlusal contact was adjusted (Fig. 5). Fig. 6 shows the occlusal view for a step-by-step implant restoration delivery. The occlusal scheme is designed to provide light contact on the incisor PFM crown when the mandible is protruding. The veneer was finally cemented with resin cement (Maxcem Elite TM, Kerr Corporation, USA). After removal of excess cement, the occlusal contact was checked again. The patient expressed satisfaction with the final result and scheduled for periodic follow-up every three months.

Discussion

The main decision that a prosthodontist commonly faces is whether the final prosthesis on a single tooth implant will be screw- or cement-retained. Although, the decision



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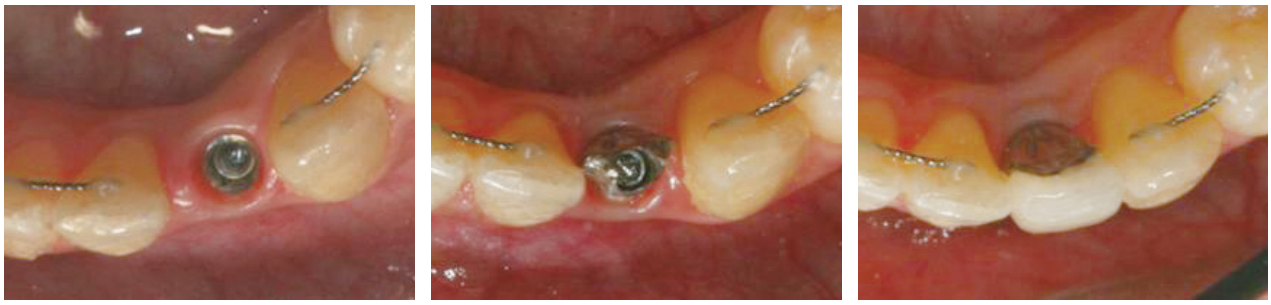
d

Fig.5 Frontal view
a-d. The step-by-step procedures of implant prosthesis delivery



a b c

Fig.6 Occlusal view
a-c. The step-by-step procedures of prosthesis delivery

between a screw-or cement-retained crown is usually dictated by the axis of the implant.[5] In this case, the occlusal view showing the screw-access hole is along the incisal edge, so a screw-retained type crown would be inappropriate for both functional and esthetic perspectives. The head of a fastening screw has a diameter of approximately 2 mm, and therefore require the diameter of the screw-access hole to be a minimum of 2.5 mm. The minimum combined thickness of the porcelain and metal layers is approximately 1.5 mm. Thus, because the bucco-lingual dimension of the patient's mandibular lateral incisor was approximately 5 mm, a cement-retained crown would appear over-contoured. To overcome this difficulty, we fabricated a modified PFM, using a laminate veneer to achieve a normal mandibular incisor contour. Resin cement was used to enhance the retention and strength of the PFM veneer. It is important to take into account that the removal of cement residues is critical for peri-implant health. However, removal of excess cement is not an easy procedure, particularly when a restoration's margins are subgingival. Thus, we designed and placed the veneer margin at the gingival level of the PFM crown.

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Case Report

Retrograde Peri-Implantitis: A Case Report

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Abstract

Retrograde peri-implantitis describes a lesion that is periapical to an osseointegrated implant. The condition is identifiable by radiological examination and from clinical symptoms such as pain, tenderness, or the presence of a sinus tract. Multiple surgical methods have been used to resolve this disorder. This case report describes a successful treatment of retrograde peri-implantitis and the associated follow-up. The study implant was restored to health with full functionality.

Keywords: Dental implant, retrograde peri-implantitis

Introduction

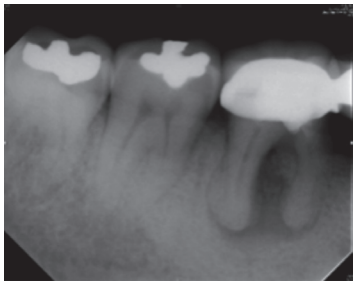
During recent decades, the use of dental implants have become a popular method to replace missing teeth.[1] However, the treatment carries the possibility of implant failure with multifactorial etiologies;[2] for example, retrograde peri-implantitis is a potential cause of failure.[3] Retrograde peri-implantitis[4] is also referred to as "implant periapical lesion,"[5] "periapical implant pathology,"[6] "endodontic-implant pathology,"[7] "periapical implant lesion,"[2] "retrograde peri-implant infection,"[8] and "apical peri-implantitis."[9]

The condition was first described by McAllister et al.[10] as a clinical symptomatic periapical lesion. Diagnosis is made by a radiolucency develops shortly after implant insertion, in which the coronal region of the implant forms a normal bone-implant interface.[11]

Retrograde peri-implantitis is often diagnosed by radiographic imaging of periapical radiolucency around the implant's apical region. The patient might experience pain, redness, tenderness, and swelling, and may present with a sinus tract.[1] The prevalence of retrograde peri-implantitis was assessed in a retrospective study of 539 implants of which 1.6% were maxillary and 2.7% were mandibular teeth.[11]

Zhou et al. recently reported a 7.8% incidence of retrograde peri-implantitis adjacent to an endodontically treated tooth, which is greater than the overall reported incidence.[12]

There are three etiologic factors that lead to retrograde peri-implantitis.[13,14] The first, implant factors, include contamination of the implant, and poor biocompatibility with the implant surface. The second factor, patient factors, include residual bacteria at the implant site, an adjacent endodontic lesion, residual root particles or foreign bodies, or poor bone



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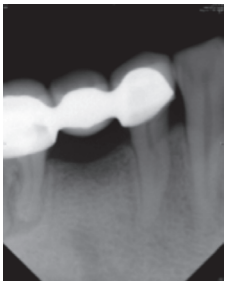

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Fig.1 Periapical radiograph before treatment. 44-x-46 ill-fitted bridge with #46 apical periodontitis

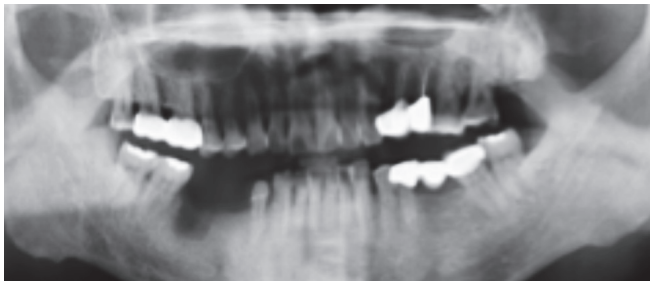


Fig.2 Panoramic radiograph after 46 extraction

quality. The third, the dentist factor, includes bone overheating, bone compression, and premature loading.[12]

Retrograde peri-implantitis treatments have included surgical methods and medication-based approaches. In this case report, we describe a successful treatment and regular follow-ups, with no further symptoms, and the radiographic disappearance of retrograde peri-implantitis.

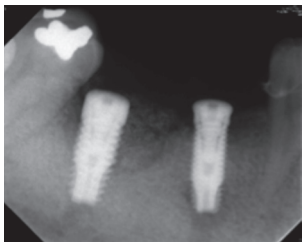


Fig.3 Periapical radiograph after 45,46 dental implant surgery

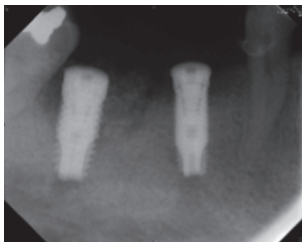


Fig.4 Two weeks after implants placement, 45 apical radiolucency was noted

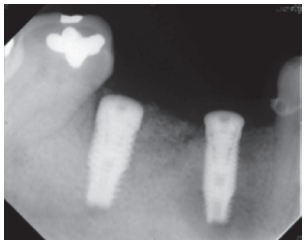
Case Report

A 59-year-old male patient suffered from palpation pain and intermittent fistula in the lower right area (tooth 46) for 1 year. No relevant past medical history was recorded, except that the patient was allergic to penicillin. The tooth had a history of endodontic treatment and was restored with a 44-x-46 PFM bridge more than 7 years previously.

Clinical examination revealed an ill-fitting 44-x-46 bridge, and the presence of a fistula tract over the 46 buccal mucosa. Periapical radiographic assessment revealed incomplete 46 root canal treatment with apical radiolucency and furcated bone resorption (Fig. 1).

The tooth was diagnosed with a poor prognosis and extraction was advised. The patient opted for treatment with 45, 46 implants. The 46 extraction was performed on July 18, 2010 (Fig. 2) and the tooth socket was completely debrided. Two months later, two dental implants were placed in the 45–46 region on September 20, 2010 (Fig. 3). The patient was placed on clindamycin HCl (150 mg) four times a day for seven days.

At the two week postoperative follow-up, a mild-pain sensation was noted in the area of tooth 45. Radiolucency extended to the apical portion of 45 dental implant (Fig. 4). The apical lesion steadily increased in size during the first month (Fig. 5A), second month (Fig. 5B), to the seventh month (Fig. 5C). Increased



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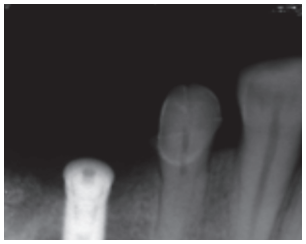

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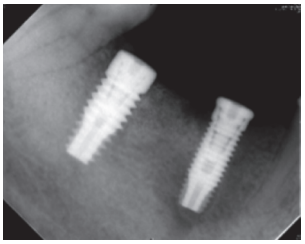

c

Fig.5 Post-operative periapical radiograph
a. One month follow up radiograph
b. Two month follow up radiograph
c. Seven month follow up radiograph

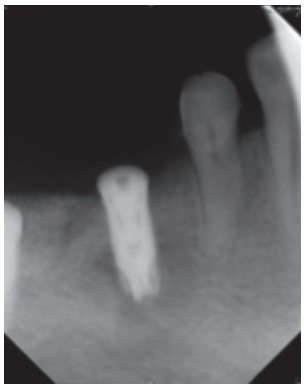

Fig.6 Post-operative nine month follow up, increased radiographic bone density was be observed

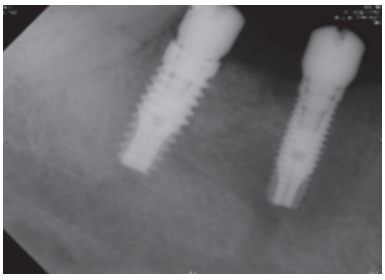

Fig.7 Periapical radiograph of stage II implant surgery

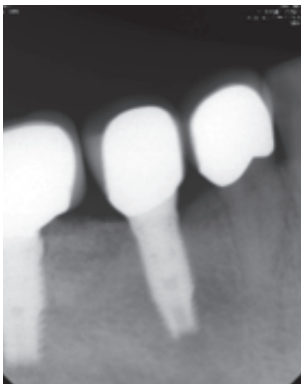

Fig.8 Teeth 45 and 46 cemented-type single implant-supported crowns

bone was visible by radiography until the 9th month (Fig. 6). Additionally, symptoms subsided throughout this period. Stage II of the procedure was carried out at three weeks (Fig. 7), and finally, the tooth was restored with a permanent crown on September 25, 2011 (Fig. 8).

Discussion

Most case study reports conclude that the endodontic pathology of an extracted tooth, or that a possible endodontic pathology arising from a neighboring tooth, are the main causes of retrograde peri-implantitis. Endodontic bacteria can be reactivated during an implant osteotomy, and this may lead to implant infection.[10]

The patient in this case report had previously received incomplete endodontic treatment of tooth 46, and presented with a large apical lesion. Two months following tooth extraction, dental implants were inserted into areas 45 and 46. Although area 45 had developed retrograde peri-implantitis, 46 did not show signs of the condition, thus, we excluded the presence of an adjacent endodontic lesion as the source of implant infection because of the successful implant in area 46. There was no indication of biocompatibility issues with the implant, as there were no residual root fragments or foreign bodies present in the bone. Because implant and patient factors were excluded, the remaining "dentist factor" should account for the emergence of retrograde peri-implantitis in the 45 area. For this factor, bone overheating or bone compression are the most probable causes.

Recently, various treatment strategies have been used for the management of retrograde peri-implantitis, including debridement alone, a combination of debridement and grafting material with or without membrane, detoxification of the infected implant surfaces, and apicoectomy.[12] However, our patient received successful treatment and only required regular follow-ups. The patient's symptoms and radiographic radiolucency completely disappeared after nine months.

Conclusions

Although many articles reported high success rates for surgical treatment of retrograde peri-implantitis, there was no scientific validation of such procedures. In addition to the various treatments available, regular follow-ups could improve the prognosis for patients. Additional research is needed to provide greater understanding of the etiology and clinical symptoms related to retrograde peri-implantitis.

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Case Report

An assistant guide for accurate placement of dental implants

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Abstract

A surgical stent is essential for the correct placement of implants during surgery. The optimal positioning of implants facilitates the fabrication of prostheses, and achieves a better prognosis. However, even with a surgical stent, the implant placement is not always as intended. To eliminate such discrepancies, we describe a technique to fabricate an assistant guide to help surgeons evaluate the parallelism and inclination between each drill bit, and the predetermined direction during implant surgery.

Keywords: surgical stent, surgical guide, dental implant.

Introduction

When performing implant surgery, it is crucial to place implants in an optimal position, with consideration of the bone contour and the future prosthesis. One method to achieve better implant positioning is to use surgical stents. Various types of stent and technique are described in the literature.[1-7]

Because of the limited size of a stent channel, the use of a round bur and pilot drill often causes difficulties with subsequent twist-drill usage. To address this, surgeons usually place indicators at implant sites to assess parallelism between implants; however, because of local bone anatomy, not all implants are parallel, particularly in the buccal-lingual direction. Improper positioning of implants makes fabrication of the prosthesis more complex, and worsens the prognosis for the implant by increasing the risk of surgical, periodontal, and prosthodontic problems.

Several factors, including the length and diameter the surgical-stent channel, affect the accuracy of implant placement.[8, 9] It is necessary to extend the channel length to improve the accuracy of implant placement. However, longer channels often make it difficult for surgeons to accurately place drills in the area of the posterior ridge, because of insufficient interocclusal distance.

There are often discrepancies between the predetermined and actual implant positions, even when surgical stents are used, and particularly in areas with low bone density. This article describes a simple method to fabricate an assistant guide. Surgeons employing the assistant guide will be confident in accurately placing implants in their predeter-

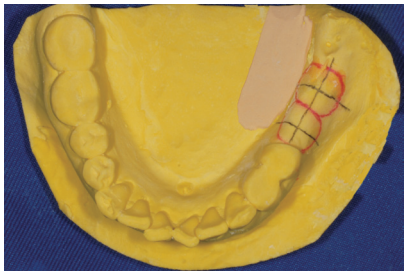

Fig.1 Diagnostic cast with vinyl polysiloxane on the lingual side

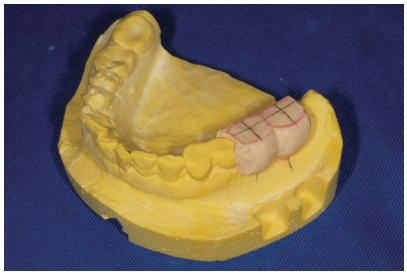

Fig.2 Shape vinyl polysiloxane as a future prosthesis

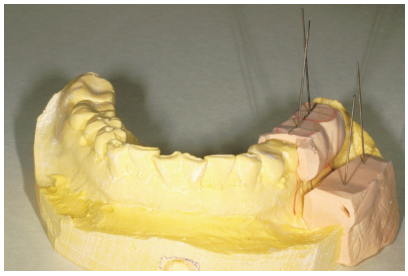

Fig.3 Pins in vinyl polysiloxane teeth and buccal vinyl polysiloxane are parallel

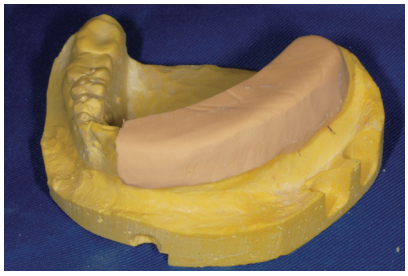

Fig.4 Vinyl polysiloxane to cover vinyl polysiloxane teeth and neighboring teeth as an index for CBCT checking

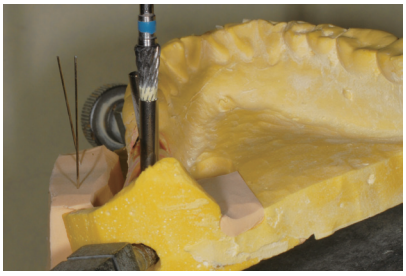

Fig.6 Metal tubes are parallel to the index pins in the buccal side

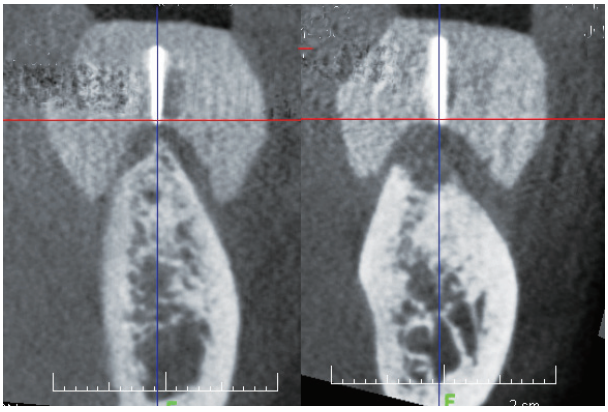

Fig.5 CBCT reveals the path of metal pins inside the vinyl polysiloxane index

mined positions, with the correct angulation. During surgery, after preparation with a round bur and pilot drill, twist-drill bits can be used in conjunction with the assistant guide to more precisely prepare the stent channel.

Procedure

1. Make an irreversible hydrocolloid (Jeltrate; Dentsply, York, PA) impression and pour dental stone (Microstone; Whip Mix Corp, Louisville, Ky) to make diagnostic casts.
2. Outline the size and position of the future prosthesis on the diagnostic cast. Place vinyl polysiloxane on the lingual side of the cast (Fig. 1). Mix the vinyl polysiloxane impression material (Affinis; Coltene Whaledent, USA) and shape it as the future prosthesis (Fig. 2).
3. Prepare notches in the buccal side of the diagnostic cast and place vinyl polysiloxane in the notches. Insert metal pins in the vinyl polysiloxane teeth at optimal positions and angles, according to the anatomy of the alveolar bone and future prosthesis. Insert metal pins in the vinyl polysiloxane of the buccal side, parallel to the pins in the vinyl polysiloxane teeth individually as a reference index, and then remove the index (Fig. 3).
4. Cut the metal pins in the vinyl polysiloxane teeth to the height of the occlusal plane and prepare a new vinyl polysiloxane mold to cover the vinyl polysiloxane teeth and neighboring teeth, as an index (Fig. 4). With the index in the patient's mouth, check the path of the pins by using cone beam computerized tomography (CBCT) (Fig. 5).
5. Using a surveyor, place 3.2 mm diameter metal tubes in the cast, individually parallel to the metal pins in the buccal-side vinyl polysiloxane mold (Fig. 6).
6. Using the surveyor, place metal pins in the lingual-side vinyl polysiloxane mold, in-

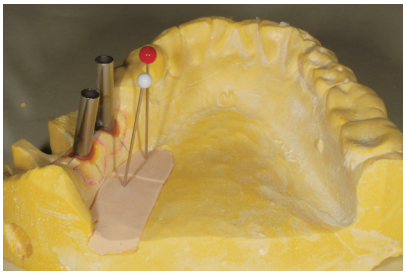

Fig.7 Metal pins in the lingual side are individually parallel to the metal tubes

Fig.8 Assistant guide

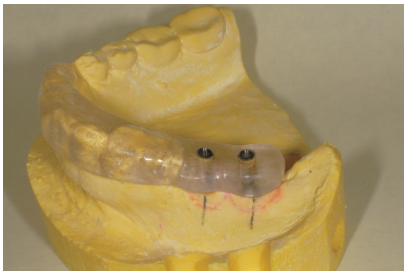

Fig.9 Surgical stent

dividually parallel to the metal tubes (Fig. 7).

7. Mix clear autopolymerizing resin (Orthodontic Resin; Dentsply Caulk, Milford, DE, USA) and apply it to surround the metal pins on the lingual side and neighboring teeth, to fabricate an assistant guide (Fig. 8). Allow the resin to polymerize, then remove it. Apply the same method to surround the metal tubes and neighboring teeth with resin to fabricate the surgical stent (Fig. 9). The axes of the tubes and metal pins in the two appliances must be identical and parallel.

Discussion

The described procedure can be used to simply and inexpensively fabricate an assistant guide suitable for both upper and lower ridges. With the aid of the assistant guide, surgeons can precisely place an implant in its predetermined position and with the intended angulation. Additionally, the guide facilitates the fabrication of the dental prosthesis.

Surgeons can easily evaluate the parallelism between the surgical drill and the assistant guide pins from any viewpoint during the entire surgical process. Even an inexperienced surgeon can achieve better results by using this appliance. One disadvantage of the technique is the time required to fabricate the appliance, nonetheless, the time spent is worthwhile.

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Case Report

Full mouth rehabilitation in a limited restorative space with severely worn teeth — a case report

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Abstract

This report describes a patient with severely worn anterior teeth and early loss of posterior teeth from the mandible, resulting in a restricted restorative space. The patient's chief complaints were poor chewing function and esthetic appearance. To create sufficient restorative space and provide an improved appearance, we used a removable appliance to test an increased vertical dimension. After a one-month adaptation period, we began fabrication of a complete maxillary overdenture prosthesis and a Kennedy class I removable partial denture with surveyed crowns in the mandible. During the provisional stage, the patient adapted smoothly, and no muscles or temporomandibular joint related symptoms or signs were noted. Finally, we met the treatment goal of rehabilitation of the chewing function, and a satisfying smiling appearance.

Keywords: vertical dimension increase, worn tooth, limited interocclusal space, full mouth rehabilication

Introduction

The vertical dimension of occlusion (VDO) is constant throughout an individual's life, and any alteration in this distance will interfere with the physiology of the masticatory system, although many authors assume that patients can adapt to such changes.[1, 2] Multiple techniques have been proposed to quantify the VDO, including the use of pre-treatment records, incisor height measurements, phonetic evaluation, patient relaxation, assessment of facial appearance, radiographic evaluation, and neuromuscular evaluation.[3] Each of these techniques has proven useful; however, there have been no scientific assessments of the accuracy of these methods.[4]

In daily clinical practice, patients request prosthetic rehabilitation to restore unstable occlusion resulting from extensive tooth wear and early loss of permanent teeth. However, a limited interocclusal space often creates a challenge for restorative treatment because the space required for restoration is unavailable, and it is probable that the final retention and resistance form will be inadequate. The use of surgical crown lengthening to reposition the gingival tissues and elective devitalization of teeth are frequent methods used for restoration. However, if patients have periodontal disease, crown-lengthening procedures will aggravate any reduction in bony support. A more reliable method is to increase the VDO to provide space for re-

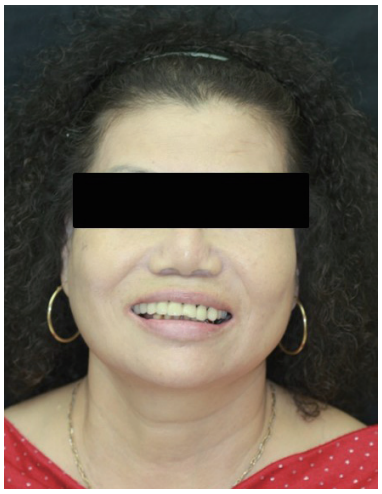


Fig.1 The patient had a chief complaint of poor chewing function and unaesthetic appearance.

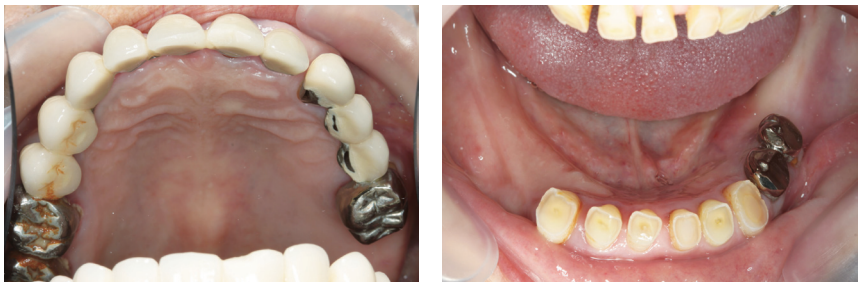


Fig.2 Intraorally photography shows a long-span ill-fitting fixed partial denture in maxilla was restored with tooth 17, 16, 15, 12, 21, 22, 23, 26 as abutments by local dental clinic about 4 to 5 years ago.
a. Upper arch; b. lower arch

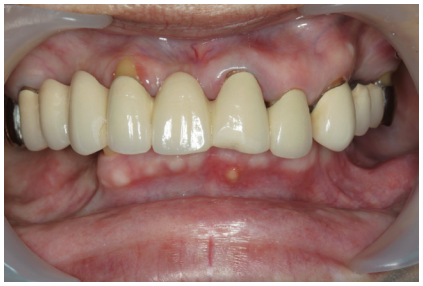


Fig.3 In occlusal analysis, deep overbite and large overjet about 5 mm and 6 mm respectively, were found.

storative materials, enhance the aesthetic tooth display, rectify anterior teeth relationships, and minimize the need for biologically invasive clinical surgery and elective endodontic treatments.[4-7] Empirically, some authors report that the VDO is a constant dimension throughout an individual's life.[1,2,8] However, some authors argue that the dynamic nature of the stomatognathic system is an adaptation by the masticatory system in response to progressive pathologic changes in tooth substance.[9-13] However, there is no compelling evidence supporting the pathologic consequences of altering the VDO, and thus, we need intensive prior examination prior to increasing the VDO.

Few studies have reported on the influence of increasing the VDO by fixed or removable appliances. Fixed appliances are more reliable and comfortable for the patient[14–18]. The most commonly reported symptoms of an altered VDO are grinding and clenching, which have a tendency to resolve within 1 to 2 weeks. Increasing the VDO by use of a removable appliance may result in altered development, and produce symptoms including discomfort from wearing a splint, difficulties with phonetics, and joint and muscle disorders.[18-21] Approaches using removable appliances present significant complications, and have poor patient compliance.

This report describes a case of severely worn anterior teeth and early loss of posterior teeth in the mandible, which resulted in restricted restorative space. The VDO was increased by use of a removable appliance, which successfully increased the restorative space, and provided both chewing function and improved esthetics, without disturbing the periodontal supporting bone.

Case Report

A 61-year-old woman presented to the Shin Kong Wu Ho-Su Memorial Hospital Department of Prosthodontics clinic with chief complaints of poor chewing function and poor esthetic appearance (Fig. 1). The medical history was noncontributory, and a long-span ill-fitting fixed partial denture in the maxilla was restored with tooth numbers 17, 16, 15, 12, 21, 22, 23, 26 as abutments by a local dental clinic 4–5 years previously (Fig. 2). There was severe periodontal destruction of these abutment teeth, and the patient had lost her bilateral mandibular teeth a long time before the upper prosthesis was fabricated. Thus, during these 4–5 years, the patient could only perform the chewing function with the anterior teeth, and severe attrition of the anterior teeth in the mandible was present. Occlusal analysis revealed a deep overbite and large overjet of 5 and 6 mm, respectively (Fig. 3). The freeway space was 2 mm with the mandible at rest. The patient exhibited no signs or symptoms of temporaromandibular disorder. Long-term loss of

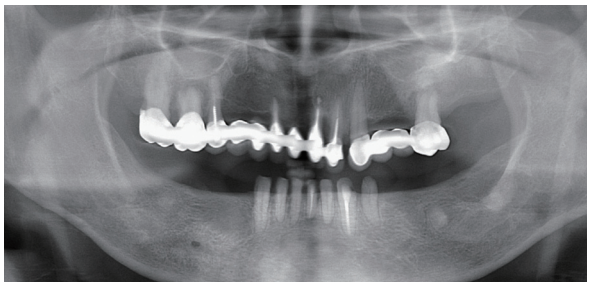


Fig.4 Radiographic examinations showed generalized horizontal bony destruction in maxillary molars and the radiolucency image in tooth 31, 32, 33 with severe attrition.

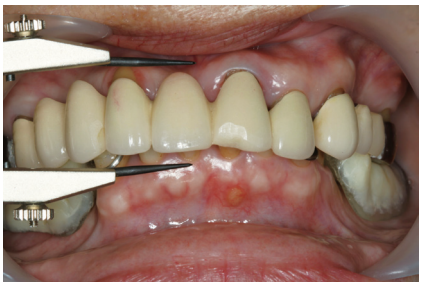


Fig.5 We delivered an occlusal bite splint with anterior teeth coverage to test the vertical dimension we need to increase (about 4 mm).

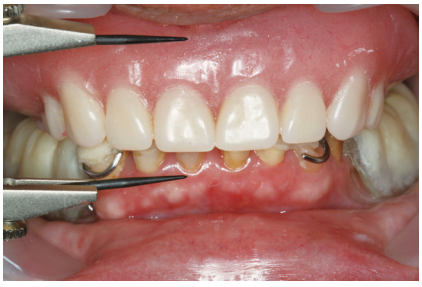


Fig.6 Few weeks later, interim prosthesis of complete overdenture in maxilla was delivered after clinical try in procedure and occlusal adjustment. The increased vertical dimension was checked and recorded carefully.

the posterior mandiblular teeth led to supraeruption of posterior maxillary teeth and an uneven occlusal plane. Radiographic examination revealed generalized horizontal bony destruction and secondary caries in the maxillary molars (Fig. 4). We also noted radiolucency in teeth 31, 32, 33 due to severe attrition and necrosis of dental pulp.

Rehabilitation of the chewing function and acceptable aesthetics were the major treatment goals. Nevertheless, it was difficult to develop a treatment plan that met the patient's expectations, given the restricted restorative space available. Several treatment options are available for a patient with restricted restorative space; (a) increasing the VDO; (b) surgical crown-lengthening procedures and intentional root canal therapy of mandibular anterior teeth; (c) surgical reduction of tuborosity bone in the maxilla. The agreed treatment plan included fabrication of a complete maxillary overdenture with presentation of teeth 15 and 23 overdenture abutments and fabrication of a Kennedy class I removable partial denture in the mandible including teeth 31, 32, 33, 34, 41,42, and 43 as surveyed crowns. The patient rejected any implantation therapy, and so increasing the vertical dimension was the most conservative approach to solving the problem of available restorative space. If this plan was not successful, then a surgical method might be indicated.

At the start, the VDO, occlusal plan, and aesthetics of the anterior teeth were determined by a diagnostic wax up. The patient was instructed to relax the masticatory muscles and an occlusal bite splint was delivered with anterior teeth coverage, to test an increased vertical dimension of approximately 4 mm (Fig. 5). The patient was told that she should wear the splint during daytime and remove it in the evenings. After one month, the patient was recalled for clinical examination. She reported no temporomandibular joint discomfort; a little muscle tenderness resolved during the first week. The VDO was determined by techniques including assessment of facial appearance and phonetic evaluation. The tone of the facial skin was unchanged, and extraoral improvement of facial tissue appearance was insignificant. Phonetic evaluation found that the lower incisors moved forward to a position nearly directly under, and almost touching, the upper incisors during production of "s" sounds. According to the examination, we began the restorative treatment by removing the ill-fitting prosthesis, and extracting the "hopeless" teeth. A few weeks later, the interim prosthesis of a complete maxillary overdenture was delivered. After clinical fitting with occlusal adjustment, the vertical dimension was recorded (Fig. 6). Following adjustment of the maxillary overdenture, the interim removable partial denture and surveyed crowns for the mandible were The extraction sockets required a 6-month healing period, and during this wait, root canal therapy and periodontal treatments were completed, and the vertical dimension was

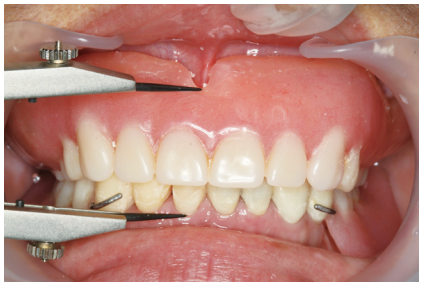


Fig.7 We recorded the vertical dimension again in the provisional stage. It showed the vertical dimension of occlusion was stable.

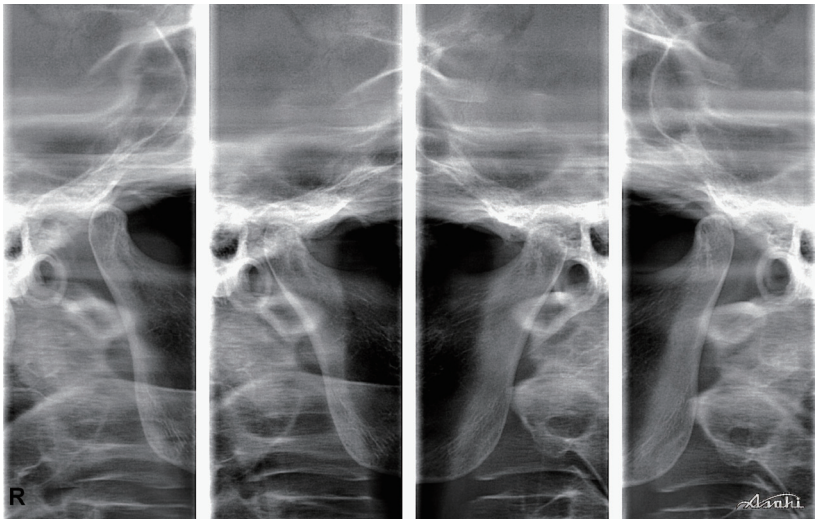
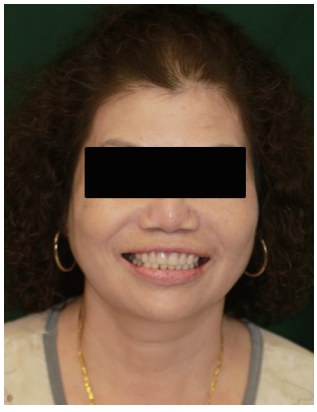
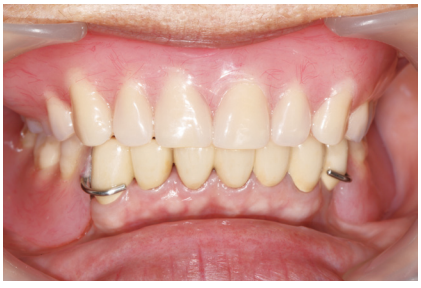


Fig.8 We checked the radiographs of temporaromandibular joints and found the condyles were still in the glenoid fossa with free movement.



a. extraoral view



b. intraoral view.

Fig.9 We reached the treatment goal of rehabilitation of the chewing function and satisfied smiling appearance.

measured and compared to that acquired at the start (Fig. 7). There was no significant change in the vertical dimension, suggesting that the VDO was stable. An X-ray radiograph of the temporaromandibular joint confirmed that the joint was still located in the glenoid fossa (Fig. 8). The patient had no complaint of the prosthesis, except that the position of the anterior teeth had changed since the teeth extraction, because of shrinkage of tissue volume. The patient expressed a wish for a more retrusive position of the maxilla anterior teeth.

In the permanent fitting stage, a final impression was acquired, and the interocclusal record and vertical dimension were carefully taken, with reference to the provisional prosthesis-based records. Several appointments were needed to align the anterior teeth of the maxilla denture, to meet the patient's aesthetic expectations. Finally, the permanent surveyed fixed crown prostheses and the removable prosthesis were delivered for clinical fitting and adjustment (Fig. 9). During the following year, the occlusion and vertical dimension remained stable, and the patient adapted smoothly. The patient expressed satisfaction with the significant improvement in chewing function, denture stability, and excellent appearance.

Discussion

Generally, the VDO is constant and does not change throughout an individual's life.[1,2,8] There are several reported procedures for determination of the VDO, and one commonly employed method is measurement of the freeway space when the mandible is at rest. Niswonger[22] reported that the freeway space was 4/32" (3 mm) in 87% of patients; the remaining 13% varied from 1/32" to 11/32". Niswonger concluded that as the teeth slowly wear down, the body adapts by making necessary changes in bone and soft tissue to maintain the space. Thompson[23] pointed out the stability of the rest position in normal dentition, but that it may be greater than 10 mm in abnormal dentition patients. However, Atwood[24] consid-

ered that each physiologic process has a range of variability. Thus, it may be true that the interocclusal distance is very often 2~3 mm, but there is a range of variation from one patient to another, and even in the same patient from one time to another. The loss of teeth or wear are potential factors for changes the dynamic nature of the stomatognathic system.[5]

In this case, we increased the VDO to approximately 4 mm, to meet the restorative material's space requirements. There are no clear objective guidelines to optimizing the VDO to maximize the space available, and that is physiologically acceptable to a patient. According to a systematic review investigating the implications of increasing the VDO, a permanent increase in the vertical dimension from 1 to 5 mm is a safe and reliable procedure, and the associated signs and symptoms are self-limiting with a tendency to resolve within 2 weeks.[17] Although it may have been safe to increase the VDO by as much as 5 mm, in this study, we performed the work carefully, delivering the occlusal bite splint before commencing restorative treatment, and observing for 1 month to confirm adaptation by the patient. The interim prostheses in the maxilla and mandible were fitted separately, to ensure that teeth preparation and surgical crown lengthening in the anterior mandible was effective.

This case report describes a full-mouth rehabilitation in a restricted interocclusal space with severely worn teeth and early loss of posterior mandibular teeth. We used an occlusal splint to temporarily increase the VDO and observe the patient's adaptation before any restorative treatment was begun. This approach provided a safe and conservative route to meet the patient's requirement. During the one-year follow up, there were no clinical complications or symptoms, or signs of temporomandibular disorder. We successfully met the treatment goals of rehabilitation of chewing function and improved smiling appearance.

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全口活動義齒之快速製作法
Fast technique for fabricating complete dentures

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摘要
本文敘述利用加成式塑成型矽膠印模材作為灌製研究模型之材料。完全遵照所有的牙醫師臨床操作及牙技師實驗室操作步驟，合併全口義齒製作第一次約診至第三次約診成為一次約診，可有效地在三次約診內完成病人的上、下顎全口義齒製作的全部過程。

關鍵詞： 加成式塑成型矽膠印模材、咬合蠟堤、綠色混合材、垂直距離、正中關係、矽膠印模材

Abstract
This article described a technique by utilizing putty-type silicone impression material as study models. This new technique completely followed all the clinical and laboratory procedures and combined traditional first to third appointments into one. The whole procedures of fabricating both upper and lower complete dentures can be accomplished in three appointments.

前言

傳統上，牙醫師替全口無牙病人製作上、下顎全口義齒或上、下顎單顎全義齒，都需要至少六次約診才能完成。製作的過程包括一：印取初模、灌製研究模型、製作個人印模托。二：完成邊緣成形及最終印模。三：蠟型義齒試戴：記錄顎間關係、面弓轉移及選擇人工義齒。四：試戴義齒試戴。五：義齒完成。六：患者回診及義齒的再調整[1]。但實際上完成一副全口義齒的製作僅須五個約診。然而整個製作的過程是否能被省略呢？其方法有兩種。第一種方法省略五次約診其中的一次約診。五次約診的步驟中能被省略的步驟有兩種。第一種就是省略第一次約診。Massad[2]利用塑膠全口印模托，修整其邊緣較短於唇、頰側前庭後，先採用高黏性矽膠印模材完成邊緣形成後，將其邊緣及組織面修短一至二毫米，再採用低黏性矽膠印模材完成邊緣成形及最終印模，省略第一次約診，而成之四次約診，完成全口義齒之製作。第二種為省略第二次約診邊緣成型及最終印模。Duncan[3,4]等認為教導未畢業之牙醫學生採用混合材去完成邊緣形成及最終印模。學生往往需要老師在旁指導，且平均須花三次以上的約診時間才能完成。結果義齒邊緣大多數是過渡延伸。因此發表了簡易的全口義齒製作法。利用常備模托及不可逆藻膠當最終印模。印取過渡延伸的邊緣，灌製模型後，以腭小孔作為解剖位置刻出後障區，利用熱凝性丙烯酸樹脂製

作出永久性義齒基底，再在其上製作咬合蠟堤。在第二次約診時，利用壓力顯示劑調整邊緣後，再作顎間記錄，面弓轉移及選擇人工義齒。而省略了邊緣形成及最終印模的步驟，於四次約診後完成全口義齒之製作。雖然Kawai等在2005年發表的文獻報告中[5]，比較簡易型及傳統型全口義齒的製作法的問卷調查中，不論在滿意度、舒適度、穩定度、美觀上、發音、咀嚼能力及清洗上。兩組之間在統計上都無顯著差異。Cunha在2013年發表的文獻中[6]，測試簡易型及傳統型全口義齒的製作法的咀嚼能力上，兩組之間都無顯著差異。然而常備模托並不能完全符合每一位病人的牙床，因此須備儲不同的常備模托才能符合病人群的需求，再者利用高質的不可逆藻膠印取完美的牙床，更具高難度。雖然Kawai等在2010年發表的文獻報告中[7]，比較簡易型及傳統型全口義齒的製作法的製作時間及病人之費用，在統計上有顯著差異。簡易型較傳統型在製作時間上少90分鐘，花費少166.3元加幣。然其需四次約診才能完成全口義齒之製作。

第二種方法將為五次約診其中幾次約診合併成一次約診，而減少約診的次數。Harvey和Brada[8]首先採用VLC複合樹脂在研究模型上完成個人印模托及在其上製作咬合蠟堤，測得病人垂直距離後，再完成邊緣形成及最終印模，記錄正中位置，及選擇人工義齒，灌製主模型後，以面弓轉移 置位於咬合器上。合併五次約診方法第二及第三次約診成一次約診，而成四次約診完成全口義齒之製作。Ling[9]採用Xantaigin印模托或採用常備模托，利用VLC樹脂作為印模材，或先用混合材或不可逆藻膠印出初模後，再利用VLC樹脂作為印模材，在患者口內印出個人印模托，切除過渡延伸之邊緣後，再置入光照機內進行光照三至五分鐘，完成印模托之硬化作用，再依照Harvey和Brada的方法將第一至第三約診合併為一次約診，宣稱只需三次約診的時間即可完成全口義齒之製作。但此方法有三大疑點，第一點為其壓製成之VLC印模托厚度均勻度及和牙床接觸度的問題，在操作上較具困難度。第二點為缺乏研究模型上的解剖位置，造成製作咬合蠟堤規格的問題，第三點，在其文獻報告中未提起從主模型去除印模材後，如何做人工義齒排列的定位。

本文敘述利用加成式塑成型矽膠印模材（putty-type）當作灌製研究模型之材料，將第一至第三約診合併成一次約診，而完成三次約診的全口義齒製作法。其操作方法如下：

第一次約診

一、印取初模，灌製研究模型及製作個人印模托

降低水粉比，調拌不可逆藻膠印模材（Jeltratere Regular Set, Dentsply USA）來降低其流動性，以印取上、下顎全口無牙嵴之初模。（圖1）調拌加成式塑成型矽膠印模材（Aquasil, Soft Putty Regular Set, Densply, USA）當作灌製研究模型之材料，填入不可逆藻膠印模材內（圖2）。待其硬化後、將之分離、檢視

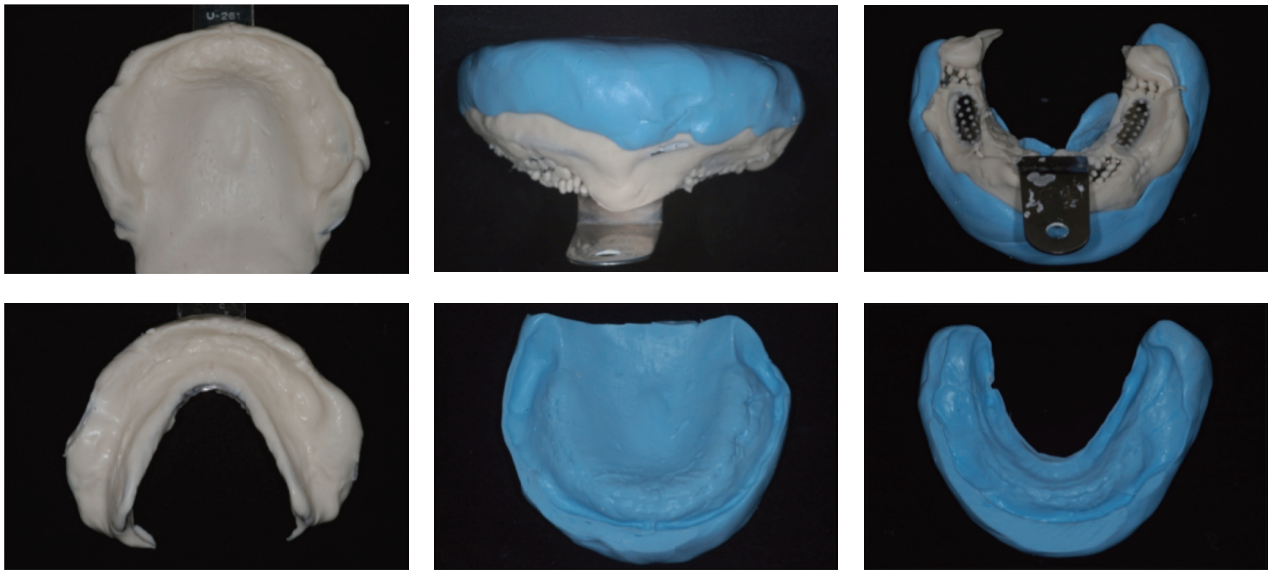


圖1. 採用不可逆藻膠印取上、下顎全口無牙嵴牙模

圖2. 採用加成式塑成型矽膠印模材灌製上、下顎研究型模型

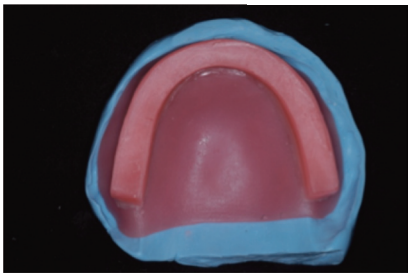


圖3. 在塑成型矽膠印模材研究模型上，利用光聚合樹脂製作記錄基底及咬合蠟堤印模托

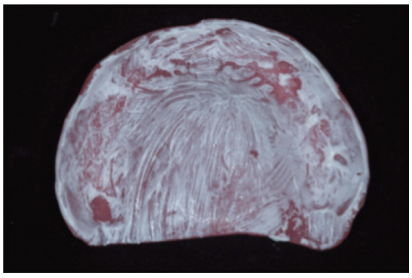
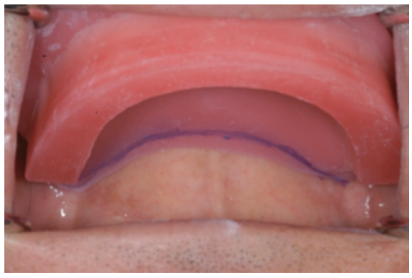


圖4. 利用壓力顯示劑，修磨印模托組織面之過早接觸區



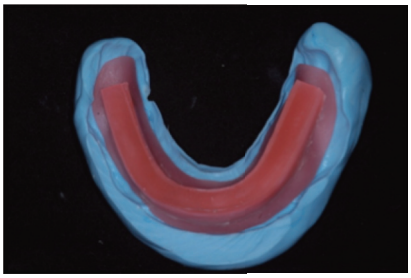


圖5. 利用Marking pen劃出病人上顎之最後振動線

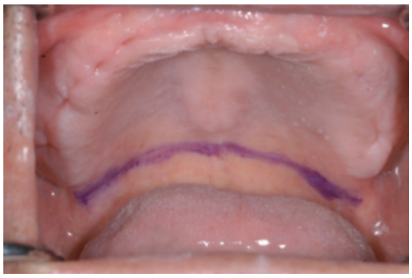
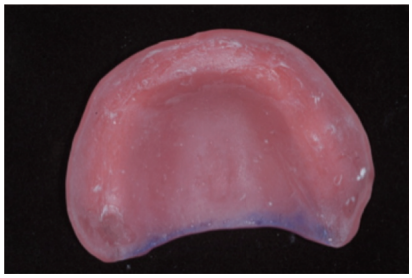


圖6. 轉換及修磨上顎印模托之最後緣線



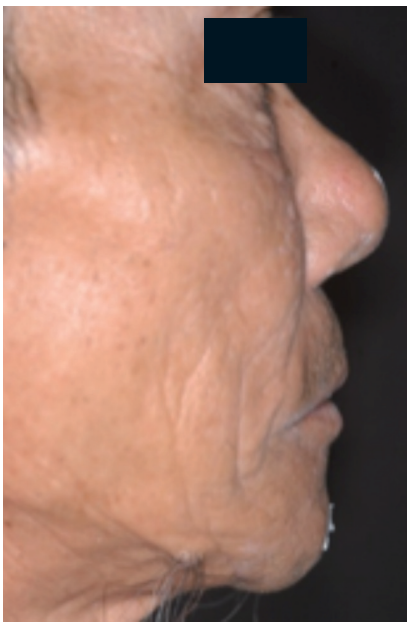


圖7. 調整病人戴上咬合蠟堤印模托之上唇豐隆度

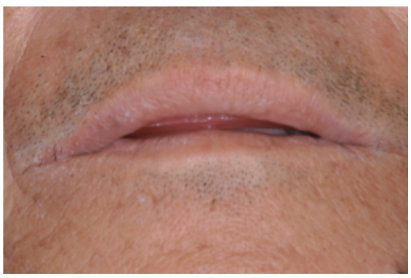


圖8. 病人發“F”聲，讓咬合蠟堤前緣和下唇的乾濕線約有一毫米之距離

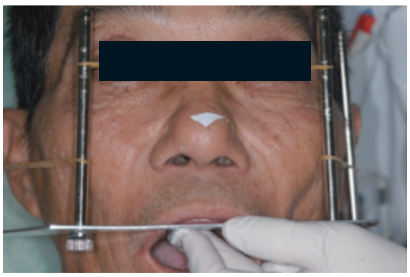


圖9. 定上顎咬合蠟堤之咬合平面和病人之瞳孔線平行

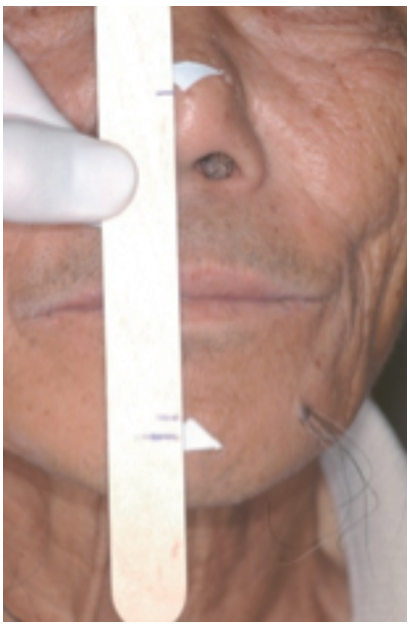


圖10. 決定病人之垂直距離

其表面。可用基底板蠟在塑成型的研究模型上有空泡處作填封及緩壓後，選用一片光凝式樹脂（Profibase, Voco, Germany）依照製作個人印模托的方法、使光凝式樹脂個人印模的邊緣在唇、頰前庭及繫帶處約短二毫米，然後在光照機內進行光照五分鐘，完成其硬化作用。完成個人印模托之製作後，再採用基底板蠟（Baseplate Wax Sheets, Keystone, USA）在其上依照製作蠟堤的規格製作蠟堤，即完成個人印模托及咬合蠟堤之製作（圖3）。

二、蠟型義齒試戴

利用壓力顯示劑（Pressure indicating paste. Mizzy）塗抹在上、下顎個人印模托咬合蠟堤的組織面上，置入患者口內，修磨過早接觸區（圖4），再用酒精棉球去除壓力顯示劑。讓患者發短“啊”音，利用記號筆（Color transfer applicator, Great Plains Dental Product Inc.）劃

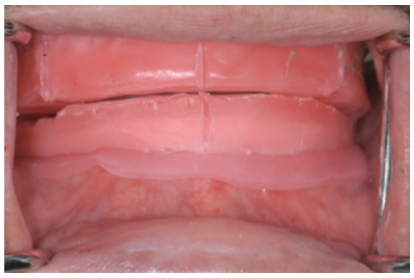


圖11. 標定咬合蠟堤印模托之中線及嘴角線

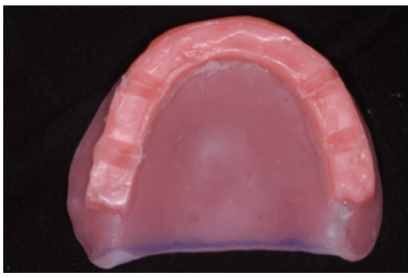
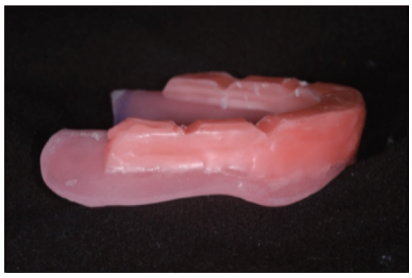
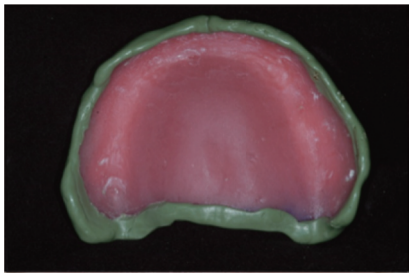
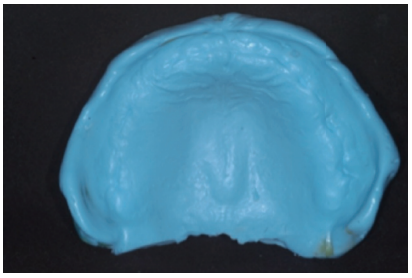
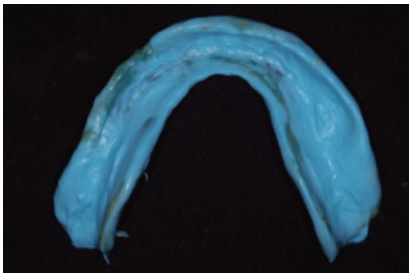


圖12. 在上、下咬合蠟堤上之後牙區做兩個楔狀切溝









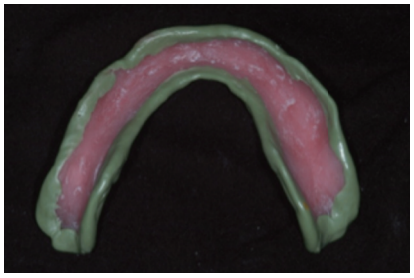


圖13. 利用綠色混合材完成上、下顎之邊緣形成

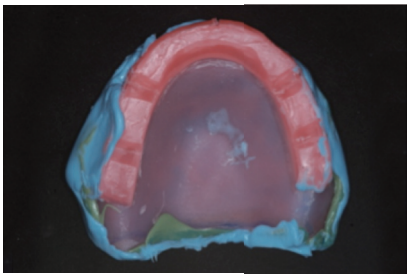


圖14. 採用矽膠印模材完成上、下顎之最終印模

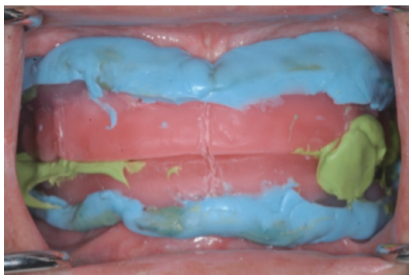
出上顎最後振動線（圖5），然後轉記到上顎個人印模托上，磨除多餘之後緣，定出其後緣及修整印模托之邊緣（圖6）。然後測量病人戴上上顎咬合蠟堤的上唇豐隆度（圖7），再讓患者發“F”音，使上顎咬合蠟堤正中門牙的咬合蠟堤離下唇的乾濕線約短一毫米，（圖8）之後定上顎咬合蠟堤的雙側後緣的咬合平面與甘伯氏線平行。從正面觀之，其咬合平面和患者的瞳孔連線平行（圖9）。測量患者之生理靜止位置，調整下顎個人印模托咬合蠟堤高度，使上、下顎個人印模托咬合蠟堤咬起來之垂直距離略短於靜止位置約3-4毫米（圖10）。再定出上顎個人印模托咬合蠟堤唇側的中線、嘴角線及最高微笑線作為上顎正中門牙的長度及六顆前牙的總寬度。然後在上顎後牙咬合蠟堤上各作出兩個楔型凹陷，在下顎後牙咬合蠟堤上相對於上顎咬合蠟堤楔型凹陷處，切除長約10毫米，深約一毫米的蠟堤，再在其中間位置切一楔型凹陷（圖11、圖12）。

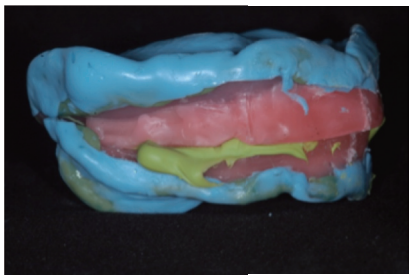
三、邊緣成形及最終印模之完成

採用綠色混合材（Peri Compound, Tokyo, GC Japan）完成上、下顎的邊緣形成（圖13）。再採用矽膠印模材（Exadenture, GC Co. Tokyo, Japan）完成上、下顎之最終印模。取出印模後，檢視及剪除上、下顎最後緣及咬合堤咬合面上溢出之印模材（圖14）。

四、記錄正中關係位置

再將最終印模置入患者口內，利用矽膠咬合記錄材（Green bite Detax Gmbh & Co. KG, Germany）放置在下顎咬合蠟堤的凹陷處，引導病人咬到正中位置並記錄此位置。取出上、下顎個人印模材咬合蠟堤並分開之（圖15）。再將上顎個人印模托咬合蠟堤置入患者口內作面弓轉移（圖16）。利用Tooth indicator測量上顎正中門牙的寬度及選取人工義齒之顏色（圖17）。





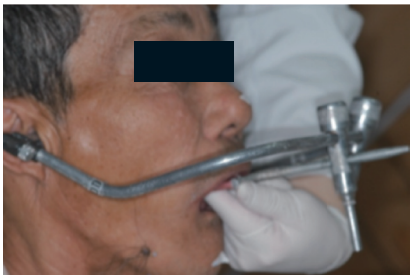
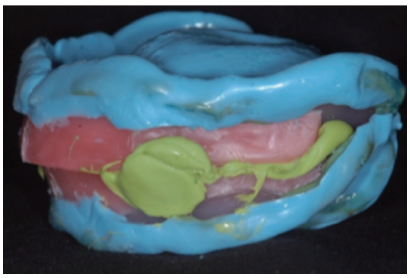


圖16. 面弓轉移



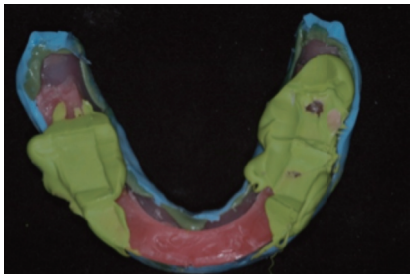


圖15. 利用矽膠咬合記錄材記錄正中關係

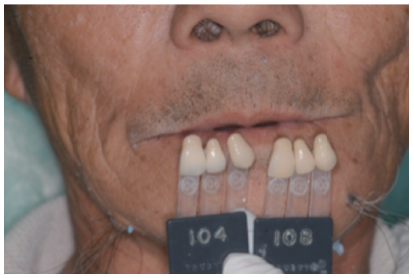
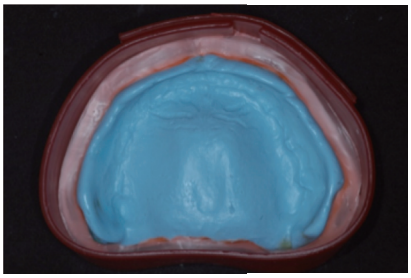
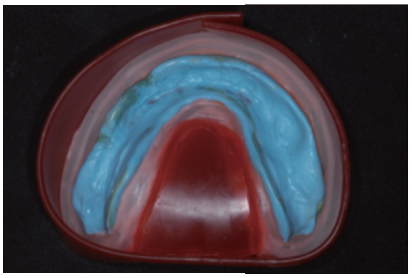
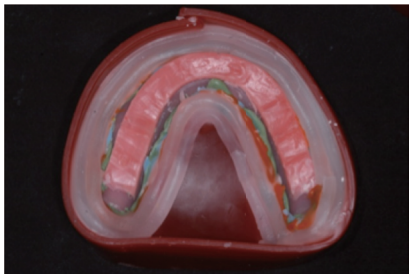
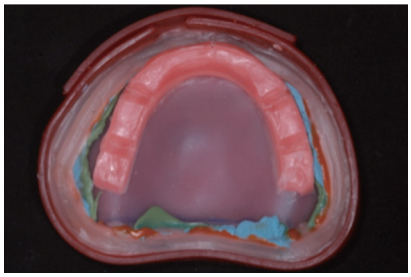


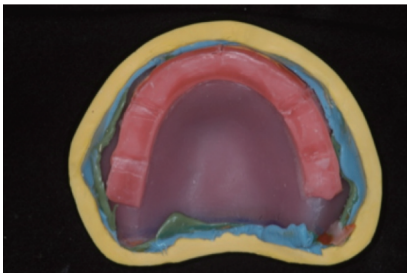
圖17. 選擇人工義齒











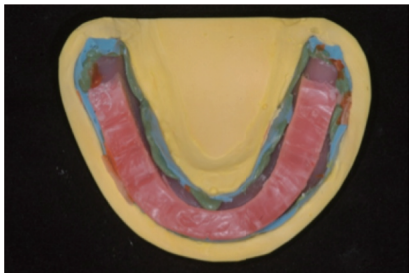


圖18. 圍盒及灌製主模型

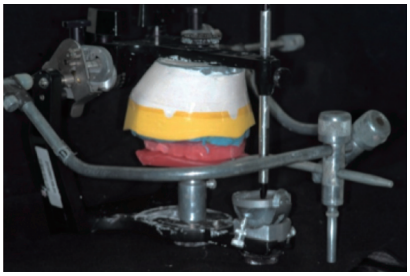


圖19. 利用面弓記錄將上顎主模型置位於半調節咬合器上

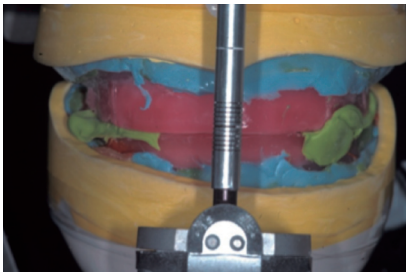


圖20. 利用矽膠咬合記錄將下顎主模型置位於半調節咬合器上

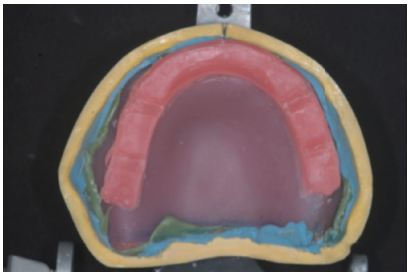


圖21. 轉錄上顎中線於相對上顎主模型之岸緣上

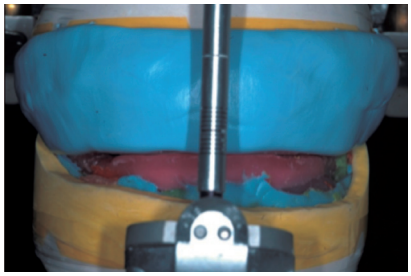
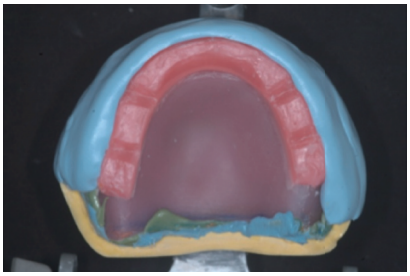



圖22. 製作塑成型矽膠印模材之上顎咬合蠟堤之指標

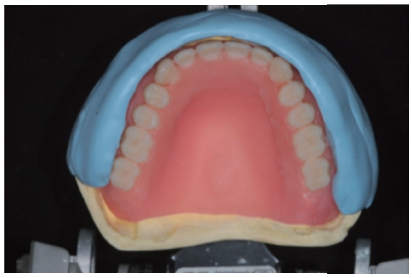
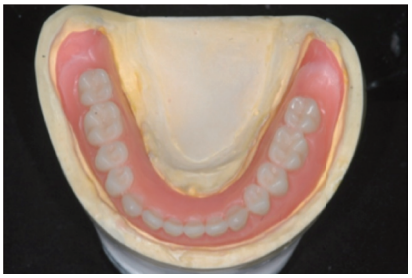
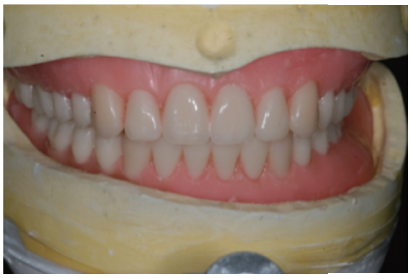




圖23. 利用塑成型矽膠印模材之指標，排列上、下顎人工義齒

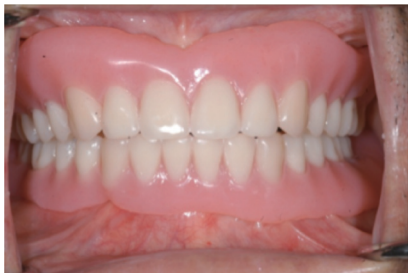


圖24. 完成後之上、下顎全口義齒

五、灌製主模型，咬合器置位及人工義齒排列

圍盒如同傳統方式，調拌硬石膏灌製上、下主模型。等硬石膏硬化後，去除圍盒用蠟（圖18）。在上顎主模型底部磨出三個楔狀再置位指標，利用面弓將上顎主模型置位於半調節型咬合器上（圖19），等置位之熟石膏硬化後，再利用記錄正中關係的矽膠咬合記錄材，將下顎主模型置位於咬合器上（圖20）。等下顎置位熟石膏硬化後，將上顎咬合蠟堤前牙唇側的中線用鉛筆轉錄至相對主模型的的岸緣上（圖21）。再在上顎主模型岸緣的上方約5毫米處，磨出三至四個圓形凹陷，調拌加成式塑成型矽膠物印模材，將之圍繞上顎整個咬合蠟堤的唇、頰側及圓形凹陷處，即完成上顎咬合蠟堤之記錄指標（圖22），為上顎排列人工義齒的指標。從主模型上去除上、下顎個人印模托咬合蠟堤，製作臨時性記錄基底。再利用上述上顎咬合蠟堤記錄及人工義齒的顏色、形態及大小之資料排列上、下顎人工義齒（圖23）。

第二次約診

試戴義齒，和傳統全口義齒製作法相同。確定上唇之豐隆度、上顎正中門齒的位置、垂直距離及正中關係。

第三次約診

全口義齒的裝戴。和傳統全口義齒製作法相同，調整上、下顎全口義齒的組織面、咬合關係及在咬合下的義齒組織面（圖24）。即完成上、下顎全口義齒之記錄。

結論

本文所述採用加成式塑成型矽膠印模材做為灌製研究模型的材料，可以完全地遵照所有牙醫師的臨床操作及牙技師的實驗室操作步驟，合併全口義齒製作第一次約診至第三次約診為一次約診，可有效地在三次約診內完成病人的上、下顎全口義齒製作。上顎單顎之全義齒之製作法和上述相同。而下顎單顎之全義齒製作法，則更加簡單，因有上顎對咬模的牙齒作為依據。本文建議採用矽膠印模材作為最終印模之印模材料。其主

要原因為矽膠印模材之體積穩定性優於多硫化物印模材。多硫化物印模材必須在二小時內完成灌模工作。而矽膠印模材可長達七天[10,11,12]。在完成最終印模、顎間記錄及面弓轉移後，可延後灌模。特別是對於沒有牙技師的牙科醫療院所可採用此材料，利用外送或外寄至技工所完成圍盒、灌模及置位於咬合器上的工作。使用此方法的缺點為製作成本較較高、因須採用較多加成式塑成型矽膠印模材。此材料可以以縮合式矽膠印模材代替，以節省成本。另外則須具有一VLC光聚合機。但此也可以傳統的鹵素光機替代。此外在靜止休息的狀態下，病人上顎結節和下顎臼齒後墊須有足夠的距離才能使用此方法。

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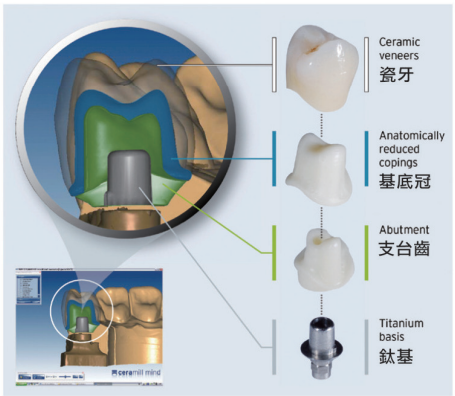
氧化鋯瓷塊、Zolid 透明氧化鋯瓷塊、臘材、VITA玻璃瓷、Ceramill Sintron生物鈷鉻合金、PMMA透明壓克力樹脂、TEMP臨時牙冠樹脂



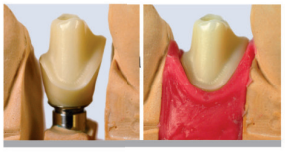
氧化鋯支台加鈦基的優點：

若是螺絲直接鎖在氧化鋯植體支台上易造成支台螺絲鬆動或氧化鋯龜裂，AG系統是藉由鈦基固定並將植體上部氧化鋯支台齒黏在鈦基後螺絲直接鎖在鈦基上，所以不會造成鬆動和龜裂,精密安全最佳。

全球知名大師級瓷粉
Creation ZI - F氧化鋯瓷粉

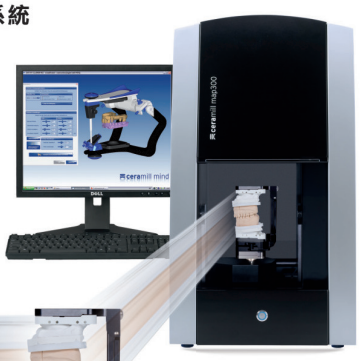
ZI - F含有極高長石成份，高協調的水晶結構使邊緣部位極為穩定。Creation全系列瓷粉皆含有正確比例螢光，所以在口腔裡能呈現出自然牙的特徵，即使在特殊光線下也一樣自然。

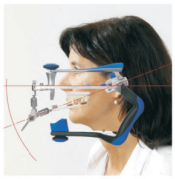
超 功 機 型 現 在 即 未 來

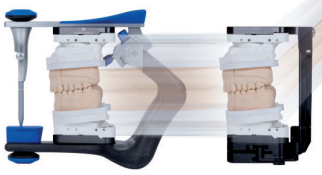


AG Ceramill CAD/CAM多功能車牙系統
Map 300 掃瞄器

唯一真正經由面弓轉移患者咬合關係位置到咬合器上，再轉移至相同關係位置的掃描固定座掃描，這樣才能真正將患者咬合關係位置轉移至PC，也唯有如此才能達到數位功能性假牙(DFP)零調整的關鍵。







＊詳細目錄備索＊

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中華民國贋復牙科學會
第七十一次牙醫師繼續教育

當無牙遇見缺牙

民國102年9月29日（星期日）
萬芳醫院6樓國際會議廳（台北市文山區興隆路三段111號）

民國102年10月6日（星期日）
高雄醫學大學附設中和紀念醫院 啟川大樓6樓第一講堂
（高雄市自由一路100號）

9月29日 & 10月6日演講程序表：

演講時間	講員	演講題目
0900-1000	蔡宗伯 醫師	導論、傳統的治療方法、預後
1000-1050	陳正毅 醫師	兼具美觀與生物性的牙周覆蓋式活動義齒 The Removable Reconstruction with Naturally Looking and Biologically Correct
1050-1110	Coffee break	
1110-1230	傅立志 醫師	當無牙遇上有牙
1230-1330	Lunch break	
1330-1500	許綺真 醫師	上顎全口無牙對應下顎兩側遠心端缺牙病患之治療計畫訂定與臨床考量 Clinical Considerations and Treatment Planning for the Patients with Maxillary Edentulous Ridge Opposing Mandibular Kennedy Class I Situation
1500-1520	Tea break	
1520-1650	何　易 醫師	當弱兵遇上強將

蔡宗伯 醫師
- 台北醫學大學牙醫系畢
- 林口長庚義齒補綴主治醫師
- 中華民國贋復牙科學會專科醫師
- 中華民國贋復牙科學會專審會及學術委員

許綺真 醫師
- 陽明大學牙醫學士
- 美國波士頓大學贋復牙科碩士
- 台南中心牙醫診所主治醫師
- 嘉義基督教醫院兼任主治醫師

陳正毅 醫師
- 陽明大學牙醫學士
- 瑞士蘇黎世大學牙醫學博士
- 誠悅牙醫協同/蘇明圳矯正診所主治醫師
- 陽明大學牙醫系臨床助理教授

何易 醫師
- 臺灣大學臨床牙醫所博士
- 北歐牙醫診所負責人

傅立志 醫師
- 美國德州貝勒大學生物醫學博士
- 中國醫藥大學牙醫學系教授暨附設醫院贋復牙科主任
- 中華牙醫學會理事長
- 國際牙醫學院院士
- 亞洲骨整合學會理事
- 中華民國贋復牙科學會專科醫師
- 中華民國口腔植體學會專科醫師

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本會會員	3000元
本會專科醫師訓練機構之住院醫師	3000元
本會專科醫師訓練機構之受訓醫師	2000元
非本會會員	4000元
學生 註：1. 學分班及在職專班學生除外。 2. 以學生身份報名者須於報名前將學生正反面影印後傳真至本會，以利驗證。 3. 本會傳真號碼：02-25469157	1000元

※ 逾期報名者為免通知不及，請改現場報名，收費為5000元

附註：

1. 需繼續教育積分點數證明書者加收100元。
2. 會期間敬備茶點、午餐，午餐如需食素，請詳註於劃撥單中以便預備。
3. 以上課程費用經繳費後，未能到場時歉難退費或換場次，敬請見諒。
4. 請以劃撥方式報名，並請詳註需繼續教育積分點數證明書與否等…，以方便進行作業。
5. 本會郵局劃撥帳號：13195250
   戶名：中華民國贋復牙科學會

座位有限，額滿為止！

預告

102年會員大會暨學術研討會

民國 102 年 11/30（六）~12/1（日）台北榮民總醫院

A Comprehensive Approach to Restorative Dentistry and Prosthodontics

外賓演講

Dr. Federico Castellucci

Diagnosis, treatment planning and sequence of therapy
Partnering with specialists
Temporization
Tooth preparation
Marginal placement
Soft tissue management
Impressions
Function and phonetics
Aesthetics
Periodontally involved dentitions and the long tooth syndrome
Laboratory work
Restoring implants

All with an emphasis on a knowledge and respect for anatomy/biology, aesthetics, function as well as optimizing periodontal health, maintainability and prevention.

Dr. Federico Castellucci

B.Ch.D., D.M.D., C.A.G.S., M.Sc.D., D.Sc.

學歷

1970 - 1975, University of Pretoria, B.Ch.D. degree
1980 - 1981, Boston University, D.M.D. degree
1978-1980 Graduate Prosthodontics Program at Boston University School of Graduate Dentistry, U.S.A.,
Obtained C.A.G.S. (Certificate of Advanced Graduate Study - Prosthodontics), and M.Sc.D. (Prosthodontics) Degrees.
D.Sc. (Prosthodontics) Degree 1982

經歷

1980 - 1985: Assistant Professor in the Department of Postdoctoral Prosthodontics at Boston University School of Graduate Dentistry.
From 1985 - present: Assistant Clinical Professor of Postdoctoral Prosthodontics at Boston University School of Dental Medicine.
From 2000 - 2003: Honorary Clinical Assistant Professor, Faculty of Dentistry, University of Hong Kong.
Private Prosthodontics and Restorative Practice: 1981 – 2007, Boston, U.S.A.
2008 – Present, Hong Kong

台北榮民總醫院贋復科主任葉聖威推薦

跟過去本學會邀請的眾多講員最大的不同，就是 Dr. Federico Castellucci 是一位真正全方位，全時間從事複雜的，困難的，精緻的全口贋復重建醫師，需要多個專科通力合作，才有可能得到一個穩定的結果。

更可貴的，就是他願意把幾十年累積下來豐富的臨床重要步驟經驗記錄，在這次年會跟大家分享！

Dr. Federico Castellucci 是本人、徐啟智理事長、陽明牙醫學院李士元院長、及眾多波士頓大學牙醫學院各專科進修完畢醫師們的共同老師，目前在香港大學擔任客座，並在中環精華區域繼續治療 high-end patient，優雅淡定的從事高品質高價位的贋復醫療工作，套句他上課常掛在嘴邊的一句話“他 / 我 的角色任務，就是收拾殘局……”

有過幾年實戰臨床各種假牙製作經驗的各位醫師們，如果你希望提升每一步驟的基本知識及功力，請在你的行事曆記下日期，保證你不虛此行！！

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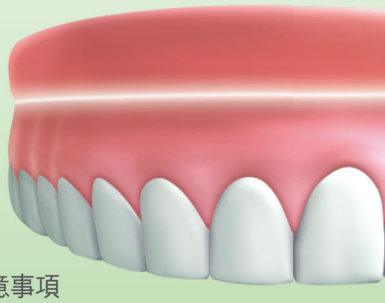

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