



HANG TUAH UNIVERSITY
FACULTY OF DENTISTRY PRESENT
INTERNATIONAL SCIENTIFIC MEETING

PROCEEDING BOOK

Dentisphere 3

Dentistry Update & Scientific Atmosphere

26th-27th, August 2016

Shangri-La Hotel
Surabaya-Indonesia



*Current Concepts and Technology
in Improving Dental and Oral Health Care*

ISBN 978-602-14590-1-0

PROCEEDING BOOK INTERNATIONAL SCIENTIFIC MEETING

3rd DENTISPHERE (DENTISTRY UPDATE & SCIENTIFIC ATMOSPHERE) CURRENT CONCEPTS AND TECHNOLOGY IN IMPROVING DENTAL AND ORAL HEALTH CARE

REVIEWER :

PROF. FUMIAKI KAWANO, DDS, Ph.D, FACULTY OF DENTISTRY TOKUSHIMA UNIVERSITY, JAPAN
PROF JOONGKI-KOOK SCHOOL OF DENTISTRY CHOSUN UNIVERSITY, KOREA
DRG HENI SUSILOWATI M.KES Ph.D, FKG UGM
DR. DIAN MULAWARMANTI, DRG, M.S, FKG UHT
DR KRISTANTI PARISIHNI, DRG, M.KES FKG UHT
DR. NOENGKI PRAMESWARI, DRG, M.KES FKG UHT
DRG. MEINAR NUR ASHIRIN, Ph.D FKG UHT

EDITOR :

DRG DIAN WIDYA DAMAIYANTI, M.KES
DRG AGNI FEBRINA P , M.KES
CARISSA ENDIANASARI, S.ST
RIZA FATMA WARDANI, AMD.AK

SETTING/LAY OUT :

DRG. DIAN WIDYA DAMAIYANTI, M.KES
CARISSA ENDIANASARI, S.ST

COVER DESIGN :

MONICA VITA, SKG

PRINTED AND PUBLISHED BY:

FKG HANG TUAH SURABAYA.PRESS
JL. ARIF RAHMAN HAKIM NO.150 SURABAYA 60111
TELP. 031-5945864, FAX. 031-5946261
WEBSITE: www.hangtuah.ac.id
Cetakan : SURABAYA, 2016-06-29

ISBN 978-602-14590-1-0



DEAN OF FACULTY DENTISTRY HANG TUAH UNIVERSITY WELCOME NOTE

Welcome to Surabaya!

Is a great honor for us to welcome you all at the International Seminar “Dentisphere 2016”. This international seminar is the third time we have held at the Shangri La Hotel Surabaya. This Seminar which held on 26-27 August 2016 is one of my pride as the Dean of Dentistry Faculty of Hang Tuah University. This is also proofing one of Hang Tuah University’s contribution both nationally and internationally in the field of dentistry.

The theme of International Seminar 3rd Dentisphere is "Current Concepts and Technology in Improving Dental and Oral Health Care", which aim is to provide a new generation of dentists who are experts and professionals with the knowledge that continues to grow for the Indonesian nation and the world. We hope that through this event we can raise the professionalism in the field of dentistry for all participants.

I would like to say a very big thanks to our speakers from home and abroad: Japan, Korea, Thailand, and Singapore. Thanks for all contributions and participation and your willingness to come and share your knowledge and experience in dentistry. It is an honor for us that the events will also have an important role in the quality control mechanisms to ensure stability and increased periodically in the field of dentistry.

Also for all the participants, thank you very much for joining the International Seminar 3rd Dentisphere, I hope you can all enjoy the entire summary of the seminar. Hopefully this seminar that we held useful for the advancement of knowledge of dentistry you all peers. I apologize if there are less pleasing for the organization of this seminar.

Enjoy the 3rd international seminar Dentisphere!



CHAIRMAN 3RD DENTISPHERE WELCOME NOTE

Hello Dentists!

Welcome to the International Seminar 3rd Dentisphere. It's an honor for us, Dentistry Faculty of Hang Tuah University to host the International Seminar 3rd Dentisphere. We are welcoming all of our sponsors, speakers and participants from both inside and outside Indonesia who contribute to this International event. Welcome to Surabaya!

The theme of this time seminar is "Current Concepts and Technology in Improving Dental and Oral Health Care", as the committee we offers a place to learn and exchange dental knowledge with national and international facilitators. International Seminar 3rd Dentisphere will also provide a unique opportunity for participants to develop the knowledge, skills and professionalism with the interaction with other participants. Do not miss the opportunity to interact directly and do hands on with the speakers and experts which are amazingly competent in the field of dentistry from different countries (Indonesia, Japan, Korea, Singapore, and Thailand).

After all, we apologize if there are less pleasing for the organization of this seminar . Enjoy the beauty of the city of Surabaya while you also explore the dental sciences!

God bless us always.

CONTENTS

DEAN OF FACULTY DENTISTRY HANG TUAH UNIVERSITY

WELCOME NOTE

CHAIRMAN 3RD DENTISPHERE WELCOME NOTE

CONTENTS

MAIN LECTURER

ML.1	Oclusal Schemes in Complete Denture Prof Fumiaki Kawano	1
ML.2	Achieving Aesthetic and Excellence with Modern Composite Dr. Anthony Tay, BDS	2
ML.3	Porous Titanium for Bone Substitute Materials Assoc. Prof. Yoshihito Naito, DDS., PhD	3
ML.4	The role of dentist in mass disaster AKBP Drg. Ahmad Fauzi, MM, GDipForOdont	4
ML.5	Basic research for development of oral hygiene products Prof Joong Ki-Kook	5
ML.6	Dental Readiness in Military Dentistry Kol. Laut (K) Ridwan Purwanto, drg., MARS - Ladokgi	6
ML.7	Occlusion Update : A Whole Elephant Perspective Dr. Yue Weng Cheu, BDS., FRACDS.,MJDF, RCSEng	7
ML.8	Things about root canal dilacerations Marino Sutedjo., drg., SpKG	8
ML.9	Irrigation at The One-Third of The Apical Root HM Bernard O Iskandar, drg., SpKG	9
ML.10	Emulating Nature : Dental Photography and Clinical Connection OnnyEryanto, drg	10
ML.11	Restorative Challenges and Treatment Option for Primary Teeth Assoc. Prof . Nagarajan M.PS	11
ML.12	Biological Response Around Graft and Implant Ika Dewi Ana, drg.,PhD	12

P 2.37	The Effectiveness of Snake And Ladder Game Method on Small Dentist Cudres' Level of Knowledge and Students' Oral Hygiene Hestieyonini Hadynanawati, Kiswaluyo, Zahara Meilawaty, Ristya Widi Endah Yani	329
P 2.39	Indirect Porcelain Veneer To Fix Instantly Palatoversi Tooth (Case Report) Diana Soesilo	337
P 2.40	Prosthetic Rehabilitation of a Partially Edentulous Patient with Chronic Periodontitis Chaterina Diyah Nanik.K	344
P 2.41	Apex Resection On Post Endodontic Treatment Tooth With Periapical Cystic (Case Report) Fani Pangabdian	353
P 2.42	Oral Mucocele in Pediatric Patient : a Case Report Ayulistya Paramita, Ghita Hadi Hollanda	359
P 2.47	<i>Expression of Osteopontin And Osteoblasts After Given Alloplast With PRF Compare To XenografWithPRF OnBone Defect</i> Hansen Kurniawan, Iwan Ruhadi, Noer Ulfah	365
P 2.48	An Obturator Bottle Feeding Appliance For A Newborn Baby With Cleft Palate Dika Agung Bakhtiar, Agus Dahlan	371
P 2.51	Maxillary Attachment Retained Removable Partial Denture And Mandibular Magnetic Retained Overdenture : A Case Report Rangga Surya Fathrianto, Harry Laksono	376
P 2.55	Direct Class II Resin Composite Restoration on Maxillary Right Posterior Tooth Diani Prisinda, Prilanita Gian	381

**POSTER
PRESENTATION**

P 2.40

CASE REPORT

Prosthetic Rehabilitation of a Partially Edentulous Patient with Chronic Periodontitis

Chaterina Diyah Nanik.K

Department of Prosthodontics, Faculty of Dentistry, Hang Tuah University Surabaya

ABSTRACT

Background: One of the most common inflammation disease in the oral cavity for the past few years is the chronic form of periodontitis. Patients with chronic periodontitis, who her jobs requires to interact with people are a real challenge for the dentist and the prosthetis. The problem with the traditional method is the fact that for rehabilitation of patients who have lost their tooth/teeth , has to be waited for approximately 8 to 12 weeks before having their dentures. There are many advantages of immediate as opposed to conventional complete denture. Hence, dentists have no opportunity to observe the anterior teeth at the try in appointment; therefore, the esthetic result cannot be evaluated until the dentures are inserted. **Purpose:** The prosthetic rehabilitation of a partially edentulous patient with chronic periodontitis using immediate maxillary full denture and immediate mandibular partial overdenture. **Case and Case management:** We presented a patient suffered from chronic periodontitis with major complain of her teeth mobility, mostly anterior teeth. She had undergone periodontal treatment, but the result were bad. In maxilla, at the end of peridontal treatment, all of her teeth need to be extracted and replaced by dentures. In mandible, there were some teeth that can be used as abutment for an overdenture, so we decided to place immediate partial overdenture in mandible with consideration both of her functional and esthetic aspects. **Conclusion:** One of the advantages of immediate dentures is patients don't have to be in edentulous state for any length of time. After treatment, patient was evaluated, fortunately she had no complaints and was happy with her new smile.

Keywords: immediate denture, overdenture, chronic periodontitis, esthetic

Correspondence: Chaterina Diyah Nanik.K, Departement of Prosthodontics, Faculty of Dentistry, Hang Tuah University Jl. Arif Rahman Hakim no.150 Surabaya, Indonesia. Email : chaterina_drg@yahoo.com

BACKGROUND

An immediate denture is a dental prosthesis constructed to replace the lost dentition and associated structures of maxilla and mandible and inserted immediately following removal of the remaining teeth. An immediate denture can replace 1-6 teeth in either the maxillary or the mandibular arch or in both arches.¹ There are some contraindications to immediate dentures, such as cardiac, endocrine and blood disturbances, slow healing potential, or emotional disturbances, mental incapacity, indifferent and unappreciative patients.¹ Some advantages of immediate dentures such as: the denture acts as a bandage or splint to help control bleeding; to protect against trauma from the tongue, food or teeth if present in the opposing arch, and to promote rapid healing; patients regain adequate function in speech, deglutition and mastication much sooner compare to conventional complete denture, many patients are not afraid to have teeth removed if they can have them replaced immediately. They would have a social and familial life without embarrassment. Some disadvantages of immediate denture are : the procedures are precise and time consuming and need require more appointments, particularly during the adjustment phase; the resorption is faster than the changes of healed tissue. These changes require new impressions to keep the denture base adapted to the basal seat. The remounting of the dentures to refine the occlusion is necessary whenever the denture base is altered; there is no opportunity to observe the anterior teeth at the try in appointment;

therefore, the esthetic result cannot be evaluated until the dentures are inserted.²

Chronic periodontitis usually prevalent in adult but can occur in children and the amount of destruction consistent with local factors. Their teeth are likely to be mobile in various degree depend on how bad is the bone destruction.³ In severe chronic periodontitis followed by teeth mobility, the vast majority of general dental practitioners will extract all of the teeth and made complete dentures for the patient. In modern dentistry, we can combine between complete denture and overdenture to solve patient with periodontitis case. Although some conditions must be carefully understanding by the dentist. Several periodontal factors are critical to the prognosis of overdenture's abutment teeth. The efficacy of a professional periodontal maintenance program, which is coordinated with a home oral hygiene program, is related to the success of overdenture therapy.⁴ In periodontitis case, teeth or roots that possess a sufficiently good prognosis can be used as abutments in overdenture treatment plan. Some advantages of preserving teeth or roots are : psychological benefits to the patient, effects upon the edentulous ridge, tactile discrimination, improved stability and retention of the denture.⁵

Patients suffering from chronic periodontitis which involved their anterior teeth, nowadays can be relieved. By placing immediate denture, whether it is complete denture or partial denture, we may achieve a good result of denture. Patients don't need to be edentulous for any length of time, so they can do

social activity without any embarrassment.¹ It also depends on case selection and proper prosthodontics treatment, considering important factors as mentioned above.

CASE

A 51 years old woman, came into dental practice with major complain of her esthetic and chewing problems due to her mobile teeth. The woman was adamant that she could not be edentulous for any length of time. She was very cooperant and from the psychological points of view, a philosophical type. Patient already had her teeth extraction on 13,14 before she came to us. After her medical, dental and social history was

obtained, she was examined clinically and radiographically. Within the last 3 months the patient had undergone periodontal treatment (composite splinting in her upper and lower anterior teeth). Intraoral examination revealed generalized bleeding on probing with varying pocket depth up to 8mm in the labial segments. All the incisors had grade 3 mobility. Radiographs showed generalized horizontal bone loss, which was advanced in the upper and lower labial segments. Additionally, the patient’s occlusal vertical dimension was decreased. The “before treatment” pictures were shown at the picture below.



picture 1. Intra oral examination of patient

CASE MANAGEMENT

Examination clinically and radiographically was performed on patient. We did initial impression using alginate to determine the best treatment for her. Endodontic

treatment was done in teeth number 32,33, and 43 because we would use those teeth as an abutment teeth for overdenture treatment. The calculus and plaque were removed thoroughly in maxillae and mandible. The hopeless teeth were extracted.



picture 2. Radiographic image of the intraorally condition

From picture 2, we can see there was a mass destruction of the periodontal ligament of her anterior teeth, both in maxillae and in mandible. Some teeth were not supported by adequate periodontal ligament, that's why, we should have extracted some hopeless teeth.

As a next phase, we examined the vertical dimension of patient. Because some of her teeth were mobile, we had to examine whether the vertical dimension of her was decreased or still in a good dimension. We did the *Willis methode* to determine her occlusal vertical dimension. And the result was her vertical dimension was decreasing 2mm. So, we had to design her final

prostheses with 2mm increasing of her vertical dimension.

To increase her vertical dimension, we did the preliminary bite registration. First, we determined her vertical dimension while in rest position and her vertical dimension while in centric occlusion. After we got the “before” occlusal vertical dimension, then, we determined the “after” vertical dimension which we've been raised in 2mm by the help of bite registration materials. Patient were instructed to bite in centric relation, and stopped 2mm before her maxillae and mandible were contacted. At the 2mm space, we put the bite registration materials to fill the space. The result were shown as the picture below.



picture 3. Preliminary bite registration done by using bite registration

Then, we take the functional impressions using medium bodied elastomer to get the precise result. The functional model were put on

“average articulator” by using the bite registration materials before.

The final working model on articulator as shown below on picture



picture 4. Final working model on articulator

Then we did the tooth arrangement. At the edentulous ridge, we try-in the position of artificial teeth in patient (picture 5). After that, we decapitated the

teeth which will be used as an abutment teeth of overdenture (teeth number 33,34, and 43) and covered it with glass ionomer cement type 2 (picture 6).



picture 5. Try-in the tooth arrangement for edentulous area

Picture 5 showed us, we could only try-in the tooth arrangement for the edentulous area, not in the area which

we would have done the immediate denture.



picture 6. Decapitation of the abutment for overdenture

In the working model, we decapitated the mobile teeth (teeth number 12, 11, 21, 22, 23) and abutment teeth for overdenture (33, 34, 43) and we did the tooth arrangement at the space.

We're ready to place the immediate full denture on maxillae and immediate partial overdenture on mandible. The day before the extraction of 12, 11, 21, 22, 23 patient

was instructed to take premedical treatment. She had to take *amoxsan* (3 times a day, for 5 days) and *ponstan* (3 times a day for 2 days). Those medications must be taken until post extraction and denture inserted.

At the appointment day, we did extraction on teeth number 12, 11, 21, 22, 23, 31,32,41,42 and did the suturing on those regio (picture 7).



picture 7. The extraction done for maxillae and mandible

After extraction, we immediately inserted the dentures on maxillae and mandible (picture 8).



picture 8. The insertion of immediate denture on maxillae and mandible

The intra oral image after insertion of immediate dentures was shown at picture 9.



picture 9. Intra oral image after insertion

Patient was instructed to use the dentures on first 24 hours and not to replace the dentures even she slept. The dentures must not be used to chew, only to drink and speak. She

must not ate and drunk hot food or beverages, must not rinse and gargle.

Picture 10 and 11 showed the difference of patient's profile, before and after treatment.



picture 10. Patient 's front profile before treatment (left) and after treatment (right)



picture 11. Patient's side profile before treatment (left) and after treatment (right)

First post insertion appointment, did 24 hours after insertion. The result was good, no sign of traumatic ulser both in maxillae nor in mandible. The post extraction site was still intact and no over bleeding in the site. Patient was instructed to maintenance her oral hygiene. Now, she had to replace the dentures every night and clean the dentures by using dentures cleanser or liquid soap. Patient was told to have her second control appointment 3 days after.

At the second appointment, the soft tissue were totally healed. And we removed the suturing of the

ridge. Next appointment would be a week after.

At third appointment, there were no complain from patient. She had adapted with her dentures and could speak and ate comfortably. The retention and stability of her dentures were good. So she instructed to still maintenance her oral hygiene and have routine appointment with us every 3 months to check the retetion and stability of her dentures. We would do the relining procedures if, then, in the future, the dentures were not stable or not retentive anymore.

DISCUSSION

Patient's self perceived needs, expressed desires and expectations are the essential parts of an evidence based model for prosthodontics treatment planning.⁶ Since the patient perceive wide ranges of dental needs, it was assumed that not only did the clinical aspects of the tooth loss influence the treatment needs. The human ability to adapt physically and psychologically to changes in the oral condition, and to cope with these impacts when the pain symptoms are absent, may act in addition to external factors like the environment and the social context.⁶

The use of immediate denture, although there are limitations, the final outcome is usually positive. One of the most important esthetic advantage of immediate dentures is that the patients are spared the inconvenience and distress of being seen in public without teeth. One disadvantage of immediate dentures is the inability to review tooth arrangement and esthetics before processing and inserting the dentures. In most situations, the anterior teeth are arranged to duplicate the patient's natural tooth arrangement. The positions of natural anterior teeth are not always compatible with esthetic, and it may not be desirable to duplicate these positions for every patient. Careful evaluation of the vertical dimension of occlusion, centric relation and the placement of the teeth are essential factors for the success of the treatment.⁷

Another limitations of immediate dentures is there may not have sufficient space to position the teeth correctly and esthetically. In this case report, the patient with a chronic

periodontitis disease made another challenge for the dentist. The soft tissue and overall ridge are very good at the time of extraction, but after several weeks the resorption is accentuated.³ Therefore it is very important for the dentist to get an adequate information of the existing periodontal disease in patient and how far it will impact our prosthodontics treatment in order to make a suitable prosthesis for the patient. A good case selection will make an excellent result both to the patient and to the dentist.⁸

The used of overdenture to a selected teeth in periodontics case, will also provide good result of treatment which the roots not only provide periodontal ligament to support the teeth but also maintaining the alveolar ridge. Studies have indicated that bone loss in complete denture wearers were at least 8 times as much as bone loss in overdenture wearers.⁹

Moreover, frequent hygiene recalls and proesthetic maintenance are essential tools to achieve a good long-term prognosis in this case.⁸

RESULTS

Patient was very happy with her new teeth, new smile and adapted very well with her dentures. No chewing problems at all. She was satisfied with both the retention and the esthetics of the dentures.

CONCLUSION

Treatment of patient with chronic periodontitis followed by teeth mobility presents a real problems from both functional and esthetic points of view. An esthetic result also will result in an

improvement in the patient's quality of life. Treatment using immediate dentures allow patients to continue their social and bussiness activities without being in edentulous state. This advantage can be demanding and challenging, as the arrangement of artificial teeth cannot be observed at a try in appointment. It is important for both the patient and the dentist to understand the limitations of the procedure. Overdenture has many advantages, especially to preserve the alveolar bone and in advanced, provide better retention of prostheses. With proper selection of the patient and the abutment teeth, a well-designed home care regimen and frequency of recalls, and proper execution of maintenance care, chances for long term success of overdenture therapy will be much improved.

REFERENCES

1. Jivanescu, Anca, et al. 2003. *Immediate complete denture : A case report*. TMJ, 3 (3-4) : 293-296.
2. Soni, A. 2000. *Trial anterior artificial tooth arrangement for an immediate denture patient: a clinical report*. J Prosthet Dent., 3: 260-263.
3. Newman, Takei, Carranza. 2005. *Carranza's Clinical Periodontology*, 9th Ed, Philadelphia : W.B Saunders Co. Pp 398-402.
4. Knoernschild KL., Lefebvre CA, Allen JD. 1992. *Overdenture and the Periodontium* . Quintessence Int., 23(6): 405-409.
5. Preiskel, Harold W. 1996. *Overdentures Made Easy*, UK: Quintessence Publishing Company Ltd. Pp 11-14.
6. Skryl A., Kadhitota M. 2011. *Remote Tooth in Immediate Partial Denture : A case report*. Journal of Clinical and Diagnostic Research, 5(6): 1318-1320.
7. Bowley J. 2002. *Minimal Intervention Prosthodontics: Current Knowledge and Societal Implications*. Med.Princ Pract , 11: 22-31.
8. Klugman, Robert,S. 2002. *Prosthodontics in Clinical Practice*, New York : Martin Dunitz Ltd. Pp 40-49.
9. Kalpana C., Vamsi Prasad K. 2010. *Seeing The Unseen : Preventive Prosthodontics :Use of overlay Removable Dental Prosthesis*. Annals and Essences of Dentistry, 11(3) : 77-79.



Committee Secretariat :
Faculty of Dentistry Hang Tuah University
Arief Rahman Hakim 150 Surabaya Indonesia 60111
Phone : +62 31 5912191 Fax : +62 31 5912191
Email : scientificdentsphere@gmail.com