PROCEEDINGS of THE 17TH SCIENTIFIC MEETING AND REFRESHER COURSE IN DENTISTRY

24 - 27 February 2016
Jakarta Convention Center (JCC)
KPPIKG 2016
The 17th Scientific Meeting and Refresher Course in Dentistry
Faculty of Dentistry Universitas Indonesia

Perpustakaan Nasional RI, Data Katalog dalam Terbitan (KDT)
Universitas Indonesia. Fakultas Kedokteran Gigi. Pertemuan (ke-17 : 2016 : Jakarta)
KPPIKG 2016 The 17th Scientific Meeting and Refresher Course in Dentistry
Faculty of Dentistry Universitas Indonesia / editor, Yuniardini S. Wimardhani, Nadhia Anindhita Harsas, Andini Tri Wijayati Jakarta: Fakultas Kedokteran Gigi Universitas Indonesia, 2016,
viii, 354 hlm.; 29,7


I. Kedokteran gigi–Kongres dan konvensi
II. Yuniardini S. Wimardhani, III. Nadhia Anindhita Harsas. IV. Andini Tri Wijayati

2016 Faculty of Dentistry Universitas Indonesia
Jakarta, Indonesia

editor : Dr. Yuniardini S. Wimardhani, drg. MSc. Dent
         Nadhia Anindhita Harsas, drg. SpPerio
         Andini Tri Wijayati, drg
Note from the Editors

It is a great pleasure to publish the Proceedings of the 17th Scientific Meeting and Refresher Course in Dentistry 2016 (KPPIKG 2016), held by the Faculty of Dentistry, Universitas Indonesia. The Proceeding of this meeting aims as a media for rapid dissemination the papers on updates related to clinical management and research being done in dentistry which is presented in the KPPIKG 2016. This Proceedings contains 71 papers from the 149 abstracts submitted to the Scientific Committee. The papers consist of 14 original articles, 38 case reports and 19 literature reviews. Following the legacy of the previous Proceeding book, the topics of this edition also cover various areas in dentistry including basic or clinical research, clinical management, dental education and public health. The editors have decided to follow the pattern of paper presentation of the 16th Proceedings and hope that it would be kept as standard for the future Proceedings.

In this 17th edition, the Committee has decided to obligate all authors to submit the papers in English. It is a way of putting the published papers to be more internationally exposed and read by other colleagues outside Indonesia. The Committee has also decided to make all the papers to be freely available online through the Faculty of Dentistry research website and indexed in Google Scholar. The Proceeding of KPPIKG 2016 also aims to be the platform for inclusion of the conference papers of the next KPPIKG in Scopus database. Making an even broader exposure to the published papers.

All submitted papers were initially checked for plagiarism using Grammarly software, papers with more than 20% similarities with other previously published papers were not accepted for review. We greatly appreciate the reviewers for their meaningful reviews and suggestions for the authors. The editors also gratefully thankful for the tedious work and great collaboration of all the people in the Scientific Committee of the KPPIKG 2016. We hope that this book would be useful for both the authors, readers and making avenues for future development in dentistry.

Dr. Yuniardini S. Wimardhani, drg, MSc.Dent
Chair of Scientific Board/ Head of Scientific Committee of KPPIKG 2016

Dr. Yuniardini S. Wimardhani, drg, MSc.Dent
Nadha Aninditha Harsas, drg, SpPerio
Andini Tri Winayati, drg
Editors

Prof. Dr. Lindawati S. Kusdiana, drg, SpPros(K)
Chief of Peer Reviewer Board

Board of Reviewers

Prof. Angus Cameron BDS (Honours), MDSc, FDSRCS, FRACDS, FICD, FADI
Prof. Armasatra Bahar, drg, PhD
Prof. B. S. M. Samadarani Siringadewa, BDS, M.Phil, PhD, MD Oral Path
Prof. Dr. Enderang Suprastiw, drg, SpKG(K)
Prof. Dr. Hanna H. Bachtiar-Iskandar, drg, SpKG(K)
Prof. Iswar Tofani, drg, SpBM, PhD
Prof. Dr. Lindawati S. Kusdiana, drg, SpPros(K)
Prof. Dr. Margaretha Suharsini Soetopo, drg, SU, SpKG(AK)
Prof. Norifumi Nakamura DDS, PhD
Prof. Warnan Buaaeeb, B.Sc., DDS, M.Sc, Ph.D
Benny M. Soegibarto, drg, MSc, MOrthRCS, PhD, SpOrt
Dr. Decky J. Indrani, drg, MDSsc
Dr. Eva Faaziah, drg, SpKGGA
Dr. Haryanto Sasanti Yudoyono, drg, SpPM

Dr. Ira Tanti, drg, SpPros(K)
Dr. Mike Yiu Yan Leung, BDS HK, MDS HK, MOSRCS
Edin, FHKAM (DS) FCDSHK (OMS), PhD
Dr. M. Fahleve Rizai, drg, SpKG
Dr. Retno Widayati, drg, SpOrt
Dr. Ria Puspitaawati, drg
Dr. Yuniardini S. Wimardhani, drg, MSc.Dent
Dr. Yuniarti Soeroso, drg, SpPerio(K)
Anton Rahardjo, drg, MKM, PhD
Dewi Natsina Suniarini, drg, MS, PhD
Diah Aya Maharani, drg, PhD
Dwi Ariawan, drg, MARS, SpBM
Gun Pertama Subita, drg, SpPM, PhD
Krisnawati, drg, SpOrt
Roselani W. Odang, drg, MDSc, SpPros(K)
Yuliarti Kemal, drg, SpPerio(K)
SECTION TWO: CASE REPORT

1. DELAYED TOOTH REPLANTATION AFTER TRAUMATIC AVULSION: A CASE REPORT
   Emmanuella G. Untoro, Bambang Nursaungsuko .................................................. 71

2. ENDOODONTIC TREATMENT ON MAXILLARY THIRD MOLAR WITH LIMITED
   MOUTH OPENING
   Rizki Ridhalaksani, Kamizar .................................................................................. 77

3. REMOVAL OF METAL POST USING ULTRASONIC DEVICE IN NON-SURGICAL
   RETREATMENT PROCEDURE: A CASE REPORT
   Dian S. Nasution, Anggraini Margono .................................................................. 81

4. ROOT CANAL TREATMENT OF NON VITAL TOOTH WITH DISCOLORATION
   AND DIASTEMA USING INDIRECT COMPOSITE VENEER
   Syahdin Mariana, Tien Suwartini, Aryadi Subrata ................................................. 87

5. INDIRECT COMPOSITE RESIN RESTORATION IN ENDOODONTICALLY TREATED
   POSTERIOR TEETH
   Melanovati, Juatin A. Gunawan, Ade Prianti ....................................................... 91

6. ENDOODONTIC TREATMENT FOR ANOMALIES TEETH
   Nevi Yanti, Fitr Yurinta, Trimuni Abidin .............................................................. 95

7. RECURRENT INTRAORAL HERPES: THERAPEUTIC CHALLENGE IN DIFFERENT
   IMMUNE STATUS PATIENTS (Report of Two Cases)
   Ahmad Ronal, Harun Sasanti ............................................................................. 103

8. THE COMPLEXITY IN TREATING NECROTIZING ULCERATIVE ORAL LESIONS
   IN PEDIATRIC PATIENT WITH ACUTE LEUKEMIA
   Ambar Kusuma Astuti, Harun Sasanti Yudhojoyono ........................................... 109

9. PREDISPOSING FACTORS OF RECALCITRANT ORAL LICHEN PLANUS EROSIVE
   TYPE (A CASE REPORT)
   Fitriany Darwis, Alii Savitri Saristo .................................................................... 117

10. NOMA-LIKE ORAL LESIONS INDUCED BY POLICRESULEN IN A PATIENT WITH
    MYELOFIBROSIS
    Widya Apsari, Harun Sasanti ........................................................................... 121

11. DENTIST’S ROLE IN IMPROVING ORAL FUNCTION OF PATIENT WITH ACUTE
    MYELOID LEUKEMIA
    Dwi Arianti, Siti A. Pradono ............................................................................ 125

12. ORAL CANDIDIASIS IN HIV+ PATIENT: CHALLENGE IN TEAMWORK
    MANAGEMENT
    Anzany Tania Dwi Putri, Felicia Parimarita ....................................................... 129

13. MALPOSITION OF TEETH PREDISPOSED RECURRENT APHTHOUS STOMATITIS:
    NEED TO BE OBSERVED
    Helena Meyyafarin, Siti Aliyah Pradono ................................................................ 135

14. COMBINATION OF ARCH BAR AND QUICK FIX AS MAXILLOMANDIBULAR FIXATION
    IN THE ANGLE AND SYMPHYSIS FRACTURE OF MANDIBLE (CASE REPORT)
    Siska Sutedja, Evy Eida Virita ........................................................................... 139

15. ADENOMAID ODONTOGENIC TUMOR OF THE MANDIBLE MIMICKING DENTIGEROUS
    CYST: A CASE REPORT
    Fiona Verisa, Dwi Ariawan ................................................................................ 143

16. MANAGEMENT OF SCHWANNOMA OF THE TONGUE (CASE REPORT)
    Bambang T. Susilo, Vera Julia ............................................................................ 147

17. MANAGEMENT OF LOWER LIP MUCOCOELES REMOVAL BY CARBON DIOXIDE (CO2)
    LASER: CASE REPORT
    Fredy Budhi Dharmanwana, Rachmitha Amne .................................................. 149

18. SURGICAL MANAGEMENT OF MANDIBULAR ADENOMATOID ODONTOGENIC TUMOR:
    REPORT OF A RARE CASE
    A. Purw Wahana, Lilies Dwi Sulistyan ................................................................ 153
COMBINATION OF ARCH BAR AND QUICK FIX AS MAXILLOMANDIBULAR FIXATION IN THE ANGLE AND SYMPHYSIS FRACTURE OF MANDIBLE
(CASE REPORT)

Siska Sutedja1, Evy Eida Vitria.2

1Oral and Maxillofacial Surgery Residency Program, Universitas Indonesia, Jakarta, Indonesia
2Department of Oral and Maxillofacial Surgery, Universitas Indonesia, Jakarta, Indonesia

Correspondence e-mail to: drg.siska@yahoo.com

Abstract

Background:
Fracture of the mandible occurs more frequently than any other fractures of the facial skeleton. The fractures in the mandible usually are mostly the result of traffic accidents and fights and few are from fall and industrial trauma. Correct and precise intraoperative mandibulomaxillary fixation (MMF), often also called intermaxillary fixation (IMF), is a key for successful preservation of the occlusal relationship of the upper and lower jaws in facial trauma. It is to keep mandible in the desired reduced position at the same time with the fixation of the plates. However, it also can be just the therapeutic regiment to restrict the movements of the mandible so the bone healing can be ensured.

Case Report:
We reported the application of MMF to a girl, 14 y.o, who had angle and symphysis fracture of mandible. We applied quick fix at upper jaw and arch bar at lower jaw and wired with stainless steel 4.0 mm at the same time during open reduction internal fixation and immobilized them for 6 weeks.

Conclusion:
This report is about the application of combination of arch bar and quick fix as Maxillomandibular Fixation (MMF) in the angle and symphysis fracture of mandible. Patient had a good bone healing without damaged root of the teeth and periodontal ligament. We can get more advantages with the combination of two devices of MMF which are simple, quick, economical and minimal invasive.

Key words: arch bar, quick fix, maxillomandibular fracture, mandibular fracture
INTRODUCTION

Mandible is a corticocancelous bone and constitutes the strongest and most rigid component of the facial skeleton, second most commonly fractured bones of the face and this is directly related to its prominent and exposed position. Prevalence rates epidemiological studies for fracture mandible are between 60 and 81%.

Mandibulomaxillary fixation (MMF) is a key for a successful establishment or preservation of the occlusal relationship of the upper and lower jaws in facial trauma, reconstructive and orthognathic surgery. In facial trauma particularly in mandibular fracture, immobilization using MMF is one of important procedures to achieve fracture bone healing and also it can be used for tooth loose. In reconstructive, MMF is used for maintenance of the occlusion and for control of the interalveolar distance while reconstructing alveolar crest of the maxilla. In Orthognathic, MMF is needed intraoperatively to secure the new jaw relationship before and during internal fixation.

Following accurate reduction of the fragment, the bone must be immobilized to allow bone healing to occur in terms of achieving full functional healing of mandibular fracture. Tissue level strains produced by functional loading should be less than 2000 microstrain to have primary bone healing. So, the stability interfragment afforded by the selected fixation device and the degree and nature of microstrains provoked by function determine the mechanical milieu of a healing fracture.

The need for MMF as immobilizer in combination with open reduction and internal fixation in simple fracture patterns is controversial, but when it is complex pattern we need it undoubtly. Variety of different techniques and devices have been developed over time in close relation to the evolution of trauma care and material research.

There were two methods of immobilization when teeth are present, tooth borne and bone borne method, depending on whether or not fixation is applied directly to the teeth. A multitude of immobilization devices in tooth borne method majority have been described such as wire ligation, arch bars, cap splints, bracket, adhesive cast splint and self-fixing plastic circumdental lugs/loop and in bone borne method such as pin, screw, plate, denture or gunning-type splint.

Arch bars are the golden standart for MMF because its extensive applicability. They are tooth borne device for MMF of dentate patient. Stability, simplicity of the procedure and the possibility to fix loose teeth make Arch bars be more superior than another. However, quick fix are bone borne device for MMF which recently have gained increasing popularity for mandibulomaxillary immobilization due to fast insertion, low risk for prick accident for surgeon, missing traction on the teeth and ease to removal.
Application MMF as Immobilization after reductioning the fragment of mandible is only until a stable relationship between the fragment has been achieved. This period is considerably less than would be required full bony consolidation to take place. The period of stable fixation required varies according to the site of fracture, the presence or otherwise of retained teeth in line of fracture, the age of patient and the presence or absence of infection. According to Juniper and Awty (1973), in favourable circumstance stable clinical union can be achieved after 3 weeks. 

CASE REPORT

A 14-year-old girl came to Cipto Mangunkusumo Hospital with main complaint was maloclussion after a motor accident. Four hours before admission, patients had motorcycle accident without wearing helmet. She fell down after her bike was hit by another bike. There was no nausea or vomiting and she was conscious. Heart disease, hypertension, allergy and diabetes mellitus were denied.

Clinical examination revealed fasial asymmetry, no trismus, no mallar depression or no saddle nose. Intra-oral inspection showed a deformity at 43 region, no limitation in mouth opening or no teeth mobility, there is an orthodontic bracket at the maxilla (Figure 1 & 2). Radiologic examination (panoramic) showed a fracture line at 43 and the angle of the mandible. 3D CT scan showed complete multiple fractures in the region of right parasymphisis and mandibular angle of right mandible. Right maxillary sinusitis appeared. (Figure 3 & 4).
The patient's medical history did not reveal any pathological condition, only a slight leukositosis 13800 /mm3. We diagnosed for this patient was angle and symphisis fracture of mandible; the surgery Open Reduction and Internal Fixation (ORIF) with miniplate and combine MMF were proposed.

We did the operation with general anaesthesia and flap was designed in mandibular vestibule area starting from region 41 to the angle of the mandible with methylene blue. Injection of pethacaine was performed along the incision line and the area where quick fix would be installed. The quick fix was placed in the region of 12-13, 22-23 and 16-17.

Occlusion was searched, fixation was carried out using MMF. When occlusion was obtained, the incision of the area of operation was performed in accordance with the flap design. The flap attachment was removed. The fracture area was identified and simple symphisis fracture of complex mandible dextra was obtained. Adjustment to plate shape was done. Two 2.0 4-hole miniplates and 6 mm screw were placed in the fracture area. The quick fix was removed. Operation proceeded to the angle of the mandible dextra area. The flap attachment was removed. Identification of the fracture line was done and complex simple mandible dextra angle fracture was obtained. The shape of the plate was adjusted by bending the plate. One
piece of 2.0 6-hole mini plate and five monocortical screws were placed in the fracture area. The occlusion was obtained after checking. Possible bleeding was controlled and spooling was carried out using a povidone iodine and 0.9% NaCl. Healing layer by layer using 4.0 vicryl and silk 3.0 was proceeded. Spooling with povidone iodine and 0.9% NaCl followed. The operation finished.

**DISCUSSION**

This case illustrates the most common features found in patients with fracture of the mandible. The clinical features described were observed in this case, particularly the most marked signs\(^1,5\), such as, step defects at right angle region and parasymphysis region (between 42 and 43), haematoma at lingual mucosa and in floor of mouth, mucosal laceration and open bite posterior, malocclusion. Patient with fracture angle and parasymphysis may have difficulty when closing his mouth, swelling and localized pain. On plain radiography and 3-D reconstruction show site of fracture at right angle and right parasymphysis (between 42-43) with simple type of fracture. In the case reported here in, open reduction and internal fixation (ORIF) have performed. Application 2 mini plate 2.0 with 4 hole and 6 mm screw length at parasymphysis fracture site and 1 mini plate 2.0 with 6 hole and monocortical screws at angle fracture site. Imobilization using MMF method was done, intraoperative and postoperative. Application of 3 quick fix on the maxilla, 2 on the right side and 1 on the left side, and arch bars on the mandible. 0.4 mm wire are inserted through the IMF screw hole and hook of arch bars.

During mastication the mandible moves relative to the rest of the skull. Forces act at the attachment sites of masticatory musculature and in the occlusal plane at the bite location. These latter bite forces are transmitted via the teeth to the alveolar bone and then to structures of the jaw. There is mylohyoid muscle in the parasymphysis and angle region. The mylohyoid muscle constitutes a diafragm between the hyoid bone and the mylohyoid ridge on the inner aspect of the mandible. Fragment will displace medially under the influence of this muscle.\(^2,3\)
The aim to use an implant system and arch bars on the mandible is to provide sufficient stability for the fracture to heal. Miniplates are placed according to Champy’s principle. This principle is to reestablish the mechanical qualities of the mandible by placing the plate in the osteosynthesis line. In the mandible, a line drawn at the base of the alveolar process correspond to the line of tension and we can fix monocortical plate and screw along this line and a line at the inferior border correspond to the line of compression we can fix both monocortical or bicortical plate and screw along this line.

Combination devices, arch bars and quick fix we have proposed as a alternative imobilization method, and this technique has demonstrated several benefits compared to the conventional method. Arch bars act as temporary fragment stabilization when he was in emergency room to minimize the pain and as tension band when combination with rigid internal fixation have performed. The quick fix act as holder, 0.4 mm wire are inserted through the quick fix hole and hook of arch bars. Application quick fix may minimize time of insertion and risk for prick for surgeon and patient’s mucosa.

It is only necessary to immobilize the mandible until a stable relationship between the fragments has been achieve. An effective blood supply is one of the most important factor in the healing of fracture bone. The mandible receives an endosteal via inferior dental artery and vein, another supply derive from periosteum. In this case patient is young adult, 14 y.o, endosteal vascularity is relative rich blood supply and osteoblast activity, healing tends to be rapid. She need IMF screw as an holder only intra operative and be removed after the operation while arch bars remain for 3 weeks to have favourable stable clinical union.

Arch bars can be used for temporary fragment stabilization in emergency case, as tension band in combination with rigid internal fixation, as long term fixation for non surgical fracture management, for fixation of avulsed teeth and alveolar crest fractures. Extensive applicability of arch bars make this device as golden standart for MMF. Although arch bars is generally successful, complications associated with the procedure include the painful and time consuming application, the damage of gingiva and the high potential for prick accident with risk of innoculation of infected material. However, quick fix which recently have gained increasing popularity for mandibulomaxillary immobilization have complication too, such tooth root injuries, damage to the soft tissue(mucosa and nerve), undesired displacement of fragment by outward rotation, screw fracture, and loosening. Quick fix should not be used for patient who require long term MMF, more than 5 to 6 weeks, quick fix are not suitable due the screws start to loosen.

**CONCLUSION**

Oral hygiene maintenance is easy when MMF was achieved with the screw and it seem at upper jaw, and application of arch bars to the mandibular dental minimize tension force and reestablish a stable occlusion before reduction and internal fixation. Our experience suggest that application combination arch bars and quick fix have efficacy for achieving favorable bony union in the open reduction and internal fixation of symphysis and angle mandibular fracture.
REFERENCES


