



18th
Scientific Meeting
and Refresher Course
in Dentistry

KPPIKG

JAKARTA CONVENTION CENTER
10-13 OCTOBER 2019



IN CONJUNCTION WITH:
4TH INTERNATIONAL WORKSHOP ON DENTAL RESEARCH
2ND INTERNATIONAL SEMINAR ON CLINICAL AND RESEARCH IN DENTISTRY

CONTENTS

SECTION A	WELCOME REMARKS	5
SECTION B	GENERAL INFORMATION	12
SECTION C1	CONFERENCE SCHEDULE	23
SECTION C2	IWDR ORAL & E-POSTER PRESENTATION SCHEDULE	33
SECTION C3	ISCARD ORAL & E-POSTER PRESENTATION SCHEDULE	44
SECTION C4	KPPIKG E-POSTER PRESENTATION SCHEDULE	49
SECTION D	MAIN LECTURE ABSTRACTS	71
SECTION E	NON SCIENTIFIC PROGRAM	139
SECTION F1	DENTAL EXHIBITION	143
SECTION F2	NON DENTAL EXHIBITION	158

LIST OF COMMITTEE KPPIKG 2019

Counselor Advisor

Prof. Dr. Ir. Muhammad Anis, M. Met
Prof. Dr. M. F. Lindawati S. Kusdhany, drg, SpPros(K)
Prof. Dr. Ellyza Herda, drg, M.Si
Dr. Retno Widayati, drg, SpOrt(K)
Dr. Angraini Margono, drg, SpKG(K)

Steering Committee

Dr. Eva Fauziah, drg, SpKGA(K)

Chairman

Secretariat Team

Nieka A. Wahono, drg, PhD, SpKGA(K)
Ike Dwi Maharti, drg, SpKG
Ruslina, S.Sos
Maulidia, A.Md
Lusiana Puspita Sari, Amd
Juli Kusdwastini, S.AB
Neneng Tarwiyah, SE
Ranny Herdiantoputri, drg
Cymilia Gityawati, drg
Regina Vaniabella, drg
Tri Kurnia Dewi, drg
Intan Detrianis
Nadia Safira Ninda, drg
Avi Aisyah
Nabila Ekayani Calfina

Information

Kiatra Vasthi Nadira
Lila Fairuz
Hanaa

Marketing & Publication Coordinator Team

Fakhrana Ariani Ayub, drg, SpPros
Suswandoyo Biyoga, SE, MSi
Lita Septira, S.I.Kom
Annisa Widiandini
Chika Astarsari Hadi
Widya Aryani
Septi Dwi Alvian
Ahmad Syaukani, drg, Sp.Ort
Sandra Mega, drg, SpOrto
Fadil Wicaksana

Treasurer Coordinator Team

Sariesendy Sumardi, drg, SpOrt(K)
Syrri Innaddinna Syahraini, drg, MBiomed
Laila Sari
Nurhasanah SE
Yuyun Damayanti, AMd
Leila Susy

Registration

Coordinator

Team

Scientific Program

Head of Scientific Program

Proceeding Coordinator

Main Lecture Coordinator

Team

Nur Asiah, SAB
Kartika Sri Kusumastuti , drg
Liesma Dzulfia , drg

Herlis Rahdewati, drg, SpPerio
Ariyanti Rezeki, drg, SpPros
Puji Astuti, SE
Dimas Ilham Utomo, drg, SpPerio
Namira Rositha Hakiki , drg
Bella Nadya Permana , drg
Atik Ramadhani, drg, PhD

: Dr. M. Fahlevi Rizal, drg, SpKGA(K)
Erik Idrus, drg, PhD
Merry Elisa, drg
Bramma Kiswanjaya, drg, PhD
Melissa Adiatman, drg, PhD
Rahmatul Hayati, drg
Nurrachma Hakim
Dovian Emely
Belladina Maulani, drg
M. Revaldi, drg
Nevada Permata
Atikah Amalina
Beta Belatrix
Tsabita Adeilina
Shilvy
Cut Asyila Vianda
Getha Gazela
Lutfi Laili
Nadhira Haifa
Nourma Nurillah
Aisyah Mauludia, drg
Rosi Sriandita, drg
Rifa Gumay, drg
Aulia Karina
Hardiati Nur Wahyuni
Renya Virga
Alma Mutiarani
Naryndra Nastiti
Qonita Feria
Mutia Nafisah
Annisa Ghaisani
Tsany Saadi
Dhia Safira

Registration
Coordinator
Team

Scientific Program
Head of Scientific Program
Proceeding Coordinator

Main Lecture Coordinator
Team

Nur Asiah, SAB
Kartika Sri Kusumastuti , drg
Liesma Dzulfia , drg

Herlis Rahdewati, drg, SpPerio
Ariyanti Rezeki, drg, SpPros
Puji Astuti, SE
Dimas Ilham Utomo, drg, SpPerio
Namira Rositha Hakiki , drg
Bella Nadya Permana , drg
Atik Ramadhani, drg, PhD

: Dr. M. Fahlevi Rizal, drg, SpKGA(K)
Erik Idrus, drg, PhD
Merry Elisa, drg
Bramma Kiswanjaya, drg, PhD
Melissa Adiatman, drg, PhD
Rahmatul Hayati, drg
Nurrachma Hakim
Dovian Emely
Belladina Maulani, drg
M. Revaldi, drg
Nevada Permata
Atikah Amalina
Beta Belatrix
Tsabita Adeilina
Shilvy
Cut Asyila Vianda
Getha Gazela
Lutfi Laili
Nadhira Haifa
Nourma Nurillah
Aisyah Mauludia, drg
Rosi Sriandita, drg
Rifa Gumay, drg
Aulia Karina
Hardiati Nur Wahyuni
Renyah Virga
Alma Mutiarani
Naryndra Nastiti
Qonita Feria
Mutia Nafisah
Annisa Ghaisani
Tsany Saadi
Dhia Safira

Food & Beverage
Coordinator
Team

Ferditya Harley P
Morina Leoni Himra
Preticia Lee
Ari Stevanofiq
Vania Mariska
Abdul Robby Farhan

Lia Kartikasari, drg, PhD, SpPros(K)
Astri Kusumaningrum, drg, SpKGA
Rezki Viona, drg, SpKGA
Dina Helmaya Anisja, drg
Citra Mutiah Sari, drg
Miana Laili
Farahdillah, drg
Fidhianissa, drg
Devina Rahma, drg
Muhammad Hanif Munandar
Rivandy Holil
Anindita Prima
Muhammad Dhiaulfikri N H
Donovan Roberto Jonamika
Dwi Putra Ramadhan
Giovanni
Dina Septia
Satriyo

Equipment
Coordinator
Team

David Maxwell Sagala, drg, SpPros
Achmad Fadillah, S.Si
Imam Sifantoro Suryo Budiman, S.E.
Yuli Asih, A.Md. Ak
Ahmad Romdhoni
Sukeri
Muhammad Naufal
Bintang Agus Setiawan
Nastiti Rilo Utami, S.Si
Astri Deviana, S.Si
Annisa Dien Andriyani, S.Si
Bernard Kurniawan, drg
Rezon Yanuar, drg
Bima Surya, drg
Anastasia Gabriela Liem
Stifan Jamin
Mikail
Aldriyety Merdiarsy
M. Hasan Jihad
Damario Augustovan Effendy
Priscilla Clarissa

**Transportation &
Accommodation**
Coordinator
Team

Hastinefia putri
Diksi Priyono
William Carlos
Sammy Fajar Nugraha

Liason Officer
Coordinator
Team

Aloysius Putut, drg
Boskoardy
Nia Nathania

Shalina Ricardo, drg, SpKG
Marcos Fung
Kartika Devy Pragitara
Nola Primadona
Faiz Abdurrahman
Darwin Yunaidy
Qaiszara Puspawati
Dwi Retno Anggraeny
Syifa Mudhia Yusuf
Marceline Olivia
Levina Nathania
Anastasia
Rakanda Rizki Ramadhani
Deajeng Laras H
Fadiza Fadillah Nurchasanah
Ghina Sharfina
Vania Mariska Putri
Danny Tandean
Johan Adiyasa
Rona Laras Narindra
Lulu Sharfina
Rebecca Grace Agustina
Glenda Clarissa Swandy
Indira Annisa Sophia
Nadine Khalissyia

Security

Kuat
Ardy
Fadjar Seno Adji
Marselinus Duapadang
Nadia Shabrina
Alri Bakti Wiratama
Cinta Nurindah Sari
M Viko Aufar
Awi Rexi Ginting
Satya Vraken
Obed Timotius
Riza Hakim F. Zaini

Reviewer

Bramma Kiswanjaya, drg, PhD
 Prof. Dr. Margaretha Suharsini S, drg, SU, SpKGA(K)
 Fatimah Tadjoeidin, drg, SpPerio(K)
 Prof. Dewi Fatma Suniarti, drg, MS, PhD
 Diah Ayu Maharani, SKG, drg, PhD
 Indriasti Indah Wardhany, drg, SpPM(K)
 drg. Muslita Indrasari, M.Kes., Sp.Prof(K)
 drg. Siti Triaminingsih, M.T.

Scientific Award Judges

Prof. Dr. Margaretha Suharsini S, drg, SU, SpKGA(K)
 Fatimah Tadjoeidin, drg, SpPerio(K)
 Prof. Dewi Fatma Suniarti, drg, MS, PhD
 Indriasti Indah Wardhany, drg, SpPM(K)
 Dr. Cortino Sukotjo, DDS, Ph.D, MMSC
 Edwin M. Ongkosuwito, PhD, DDS

LIST OF COMMITTEE 4th IWDR

Advisor

Prof. Dr. M.F. Lindawati S. Kusdhany, drg., Sp.Prof(K)

Scientific Coordinator

Prof. Dr. drg. Ellyza Herda, M.Si

Fund Coordinator

Dr. drg. Retno Widayati, Sp.Ort(K)

Chairman

Drg. Lisa Rinanda Amir, PhD

Secretaries

Drg. Citra F. Theodorea, M.Si., PhD
 Ismartiny

Treasurer

Drg. Anandina Irmagita, Sp.PM(K)
 Lailasari

**Publication &
Documentation**

Lita Septira, S.I.Kom

**Conference Manager
System**

Drg. Fakhrana Ariani Ayub, Sp.Prof
 Drg. Ninis Yekti Wulandari
 Achmad Fadillah, S.Si

Member

Drg. Syurri Innaddinna Syahraini, MBIomed
 Sukeri

LIST OF COMMITTEE 2nd ISCARD

<i>Advisor</i>	Prof. Dr. M.F. Lindawati S. Kusdhany, drg., Sp.Pros(K)
<i>Scientific Coordinator</i>	Prof. Dr. drg. Ellyza Herda, M.Si
<i>Fund Coordinator</i>	Dr. drg. Retno Widayati, Sp.Ort(K)
<i>Chairman</i>	Dr. Yuniardini S. Wimardhani, drg., MSc.Dent.
<i>Secretaries</i>	Drg. Ambar Kusuma Astuti, Sp.PM Ismartiny
<i>Treasurer</i>	Lailasari Yuyun Damayanti, A.Md
<i>Publication & Documentation</i>	Suswandoyo Biyoga, S.E., M.Si
<i>Conference Manager System</i>	Drg. Fakhra Ariani Ayub, Sp.Pros Drg. Ninis Yekti Wulandari Achmad Fadillah, S.Si
<i>Members</i>	Sukeri Rossi Maolana A.Md

No	No. Poster	Paper Title	Author
1	P2-01B-01	Brain Abscess Due to Odontogenic Infection in a Child (Case Report)	Rani Handayani, Achmad Jana Maulana, Paulina Thiomas Ulita, Nila Kencana Sari, Afia Afanty
2	P2-01B-02	Unilateral TMJ Prosthesis after Segmental Mandible Resection and Disarticulation Case Series	Rumartha Putri Swari Evy Eida Vitria Wenny Yulvie
3	P2-01B-03	Post Operative Complications in Patient with Palatoplasty Procedure A Case Report	Winantu Yuli Asri Evy Eida Vitria Eky Nasuri
4	P2-01B-04	Surgical Management of Large Calcifying Epithelial Odontogenic Tumor (CEOT) of the Mandible A Case Report	Wayan Hari Swarjaya Sandi Wenny Yulvie Evy Eida Vitria
5	P2-01B-05	Management of Hemangioma in a Child with Nephrotic Syndrome A Case Report	Indriati Evy Eida Vitria Eky Nasuri
6	P2-01B-06	Bilateral Sagittal Split Osteotomy for Management of Mandibular Prognathism with Deep Bite and Midline Shifting	Abdul Latif Vera Julia
7	P2-01B-07	Odontogenic Keratocyst Serial Cases of Three Patients	Ditha Noviantika, Lilies Dwi Sulistyani, Wenny Yulvie
8	P2-01B-08	Fibrous Dysplasia in The Mandible Dextra A Case Report	Rima Dini Januarti, Iwan Tofani, Eky Nasuri
9	P2-01B-09	Hemangioma on Maxillary Anterior A Case Report in Old Patient	Arian Reza Marwan Iwan Tofani Retnowati Gondo Sudiro
10	P2-01B-11	Surgical Management of Monostotic Fibrous Dysplasia A Case Report	Irfan, Abdul Latif, Retnowati Gondo Sudiro
11	P2-01B-12	Surgical Management of Temporomandibular Joint Ankylosis with Interpositional Arthroplasty Technique (Case Report)	Ricky Sanjaya Iwan Tofani Eky Nasuri
12	P2-01B-13	Management of Dentigerous Cyst with Maxillary Sinus Involvement A Case Report	Muhammad Aryaditha Yunial Vera Julia Retnowati Gondo Sudiro
13	P2-01B-13	Management of Denture-Induced Fibrous Inflammatory Hyperplasia in a Patient with Multiple Systemic Diseases	Arbi Wijaya Abdul Latif Retnowati Gondo Sudiro

No	No. Poster	Paper Title	Author
1	P2-02B-02	Surgical Procedure of Multiple Molar Impacted Teeth in Patient with a Congenital Adrenal Hyperplasia A Case Report	Putu Gede Putra Dananjaya Kawisana Abdul Latif Wenny Yulvie
2	P2-02B-03	Effect of Concentration of Clove Leaf Extract Gel on Macrophage Cells in Incision Gingiva Marmot	Hendri Poernomo Mochammad Taha Ma'ruf
3	P2-02B-04	Effectiveness of Binahong Leaf Extract Gel on Fibroblast Cell Counts in Aloxan-Induced Mice Incision Healing	Mochammad Taha Ma'ruf Putu Sulistiawati Dewi
4	P2-02B-05	Inhibition Test of Rhizome Bangle Extract Against Staphylococcus aureus Bacteria Growth In Vitro	Putu Sulistiawati Dewi Setiawan
5	P2-02B-06	Sialendoscopy, a New Methode in Evaluation and Management of Salivary Gland Obstruction Disease	Muslita R Wahyuni Benny S Latief
6	P2-02B-07	The Use of Koate-DVI in Hemophilia A Patient Undergoing Surgical Removal of Impacted Teeth A Case Report	Wyndi Novianti Kurnianto Lilies Dwi Sulistyani Eky Nasuri
7	P2-02B-08	Cyst and Ameloblastoma in the Histopathological of Mandibular Lesion A Case Report	Muskab Iwan Tofani Retnowati Gondo Sudiro
8	P2-02B-09	Lipoblastoma on the Tongue A Rare Case Report	Hendro A Sumjaya, Arfan Badeges, Ety Soenarti, Abdul Latif
9	P2-02B-10	Surgical Management of Mesiodens Based on Characteristic and Complication - a Systematic Review	Bayu Rahardian, Vera Julia, Lilies Dwi Sulistiani
10	P2-02B-11	Versatile Bone Grafts with Osteogenic Ions for Oral and Maxillofacial Surgery	Lilis Iskandar, Lucy Di-Silvio, Sanjukta Deb
11	P2-02B-12	Desmoplastic Type A Rare Variant of Ameloblastoma A Case Report	Febriadi Rosmanato, Iwan Tofani, Wenny Yulvie
12	P2-02B-13	Fasciitis Necroticans in an Obese Woman Case Report	Fitriana, Evy Eida Vitria, Arfan Badeges
13	P2-02B-14	The Potency of Red Algae Extract Gracilaria verrucosa from Aceh's Coast as Antibacterial Against Streptococcus mutans	S Chismirina R Andayani S Sungkar FY Yolanda
14	P2-02B-15	Indirect Pulp Capping in Immature Tooth Using Mineral Trioxide Aggregate (MTA)	Jessica Anggono Eva Fauziah

Post Operative Complications in Patient with Cleft Palate Repair

A Case Report

Winantu Yuli Asri¹·Evy Eida Vitria,²Eky Nasuri³

^{1,2}Departement of Oral and Maxillofacial Surgery, Faculty of Dentistry, Universitas Indonesia, Jakarta, Indonesia

³Departement of Oral and Maxillofacial Surgery, RSUPN Cipto Mangunkusumo, Jakarta, Indonesia

*Corresponding author:

Evy Eida Vitria
Department of Oral and Maxillofacial Surgery - Faculty of Dentistry Universitas Indonesia
Jl. Salemba Raya 4, Jakarta 10430, Indonesia
Email : evy_eida@yahoo.com

Abstract

Objectives

Many genetics syndromes has connections to anomalies that affecting in functional decrease such as palatal cleft. The incidence is approximately 1 per 2000 live baby births. ¹

Cleft palate repair or palatoplasty's main purpose are to correct speech function by operative procedures and realignment of the abberant attachments of the palatal muscles and to barrier the oronasal connection cavities without creating any fistulae. ²

The procedure often elevate of large mucoperiosteal pedicle on great palatine arteries. The postoperative wound submerged by oral flora and saliva, increase infection risk. The swelling caused by used of oral retractors, and also physical narrowing of the palate after the procedure resulting in postoperative respiratory compromise . ^{3,4,5}

Mortality rate with cleft palate repair or palatoplasty are very low 0.01 %, and complication rate range from 3% to 38 %.^{6,7,8} The most common perioperative complications are the airway compromises, associated with other pediatric surgery the published rates of cleft repair is 5.7% to 38% while the other pediatric surgery is 5.7% and 38%.⁹⁻¹³

Case Reports

An 6 years old boy patient reported to the Departement of Oral Surgery and Maxillofacial, RSUPN Cipto Mangunkusumo with chief complaint choking while eating due to palatal cleft. The patient had has the palatoplasty procedure on 4th December 2018. The operation was taken time for about 7 hours and 19 minutes. The patient was intensively monitored in pediatric intensive care for 6 days because of there were swelling in his upper airway.

Conclusion

The post operative complications due to palatoplasty procedures such as upper airway swelling, tongue edema due to prolonged operation and used of mouth spreader. Post operative intensively monitoring given the satisfactory result in patient with palatoplasty post operative complication.

Keywords : palate cleft repair, palatoplasty, respiratory complications, tongue edema

INTRODUCTION

World wide, every year more than four millions babies born with birth anomalies. Congenital heart disease, clubfoot and craniofacial deformities are contribute a wide shard of all human birth defects. Each year, around the world, defect lips and palate is the most usual maxillofacial birth anomalies with an estimated affects more than 250 thousand babies born. The significant medical, psychological and socio-economis effects of this anomalies shows large variation across nations and ethnic groups.¹⁴

Epidemiology

The average birth prevalence of 1:700 of cleft lip with or without palate has rate from 1 per 500 birth to 1 per 2000 birth, depends on ethnic groups. Native Americans has incidence ratio 3.6:1000, while in Asians races, 2.1 per 1000 birth in Japanese birth and in Chinese birth has ratio 1.7 per 1000 birth ,in Caucasians 1 in every 1000 birth and African has 0.3 in 1000 birth.

In all populations, the birth prevalence rate of cleft palate only without lip, which genetically different from defect lip or defect palate is 1:2000.¹⁵⁻²¹

The oral defects include lip and palate has percentage 46%, defects include only the palate has 33% and cleft lip has 21%. Unilateral cleft lip or palate is more frequent than bilateral and in males occurs more often than females. The left side unilateral defects exist more often than in the right side. The unilateral left side, unilateral right side, and bilateral defects of lip has ratio 6:3:1 .²²

Etiology

Genes and environments interactions has affects to non-syndromic cleft lip and palate with complex characteristic and multifactorial etiology. Early identification of genes that contributing to the genesis of craniofacial defects will assist in primary assessment, disease prevention, or possibly developing adjunctive therapies. The 3 to 14 genes are contribute to defects lip and cleft by recent research^{23,24}

The chromosomes 1, 2, 4, 6, 11, 14, 17, and 19 of genes and loci have been identified responsible for non-syndromic cleft lip or palate.²³⁻²⁵

15% of genes IRF6 and MSX-1 has non-syndromic cleft lip or palate. Popliteal pterygium syndromes and Van der Woude might be the caused of IRF6 mutations. The pathogenesis of cleft palate caused by abberant transforming growth factor beta-3 (TGF- β 3) signaling.^{26,27}

Cigarette smoking²⁸⁻³¹, folic acid deficiency during maternal period^{32,33}, and periconceptional alcohol consumption and exposure to teratogenic drugs are predisposing factors to the incidence of craniofacial defects anomalies.³⁴

The increased risk of maxillofacial defects also been related to co-sanguinous marriage, diabetes and obesity during periconceptial. Periconceptial viral infections such as rubella and varicela has also contribute to craniofacial defects^{35,36}

Classification

Veau classification divide into 4 groups of clefting, based on the severity of clefting:

Group I, defects only on the soft palate . Group II, defects on both hard and soft palate untill the foramen incisivus. Group III, complete unilateral defects on both soft and hard palate, the alveolar ridge and the lip on one side. Group IV, complete bilateral defects of lip and palate.

While Berkowitz use a classification for labio palatal defects, this one is more simple:

Defects of lip and alveolar bone, defects of primary and secondary palate, defects on only secondary palate, submucous defects ³⁷

General Assesment

Complete assessment for every child born with cleft lip or palate by comprehensive physical examination and diagnostic test to find out the related systemic abnormalities such as congenital heart, renal and respiratory anomalies

If the baby is delivered in a non medical facility, in rural area or a small hospital they should be referred to a larger hospital with better resources, for further examination. A proper respiratory examination, and consultation for nutrition and feeding should be carried out as soon as possible.

Feeding and Nutrition

The goal of the procedure is to suffice enough nutrition to fullfill the caloric needs and avoid failure to develop. The parents should be educate with proper information on feeding before the birth or immediately after baby birth by cleft team. Difficulties for babies with cleft lip only without a cleft palate is in creating a barrier around the nipple but generally can be breast fed before and after lip surgery.

The obstruction at any level in the upper or lower respiratory tract must be carefully assted including the nares and choanae. Micrognathia, glossoptosis, and airway obstruction are related for babies born with a cleft of the palate. The signs, such as increasing breathing effort, stridor, weight loss, and failure to thrive must be carefully monitored in these babies. An abnormal breathing pattern or respiratory distress, particularly during upper airway tract infection should be informed to the parents.

Repair of Cleft Palate

To correct speech function by surgical procedures and realignment of the aberrant attachments of the palatal muscles, and to barrier the connection of oronasal cavities without fistulae formations are the main purpose of the cleft palate repair.

Timing of Palate Repair

Cleft palate repair is timed depends procedure to the baby's speech developmental stage. For most babies, the speech developed normally is around nine to twelve months. The most of the surgeons repair the palate in one stage before twelve months of age³⁸.

Cleft repair with two-stage of soft palate repair as early as three to six months old, at the time of primary lip repair, and hard palate reapiir by twelve to fifteen months have been suggested by some surgeons.³⁹ Babies with cleft palate often have other anomalies and it may be necessary to modify the timing of repair in the presence of comorbidities, especially respiratory anomalies. The respiratory complication is the reason why palatoplasty procedure should be delayed up to 14-16 months of age. Premature babies with micrognatia are particularly to increase risk for postoperative airway complication after palatoplasty³⁹.

Surgical Anatomy

Cleft of the palate can range from a minor submucous cleft affecting only the soft palate to a complete bilateral defects affecting primary and secondary palate.

It is important to look for overt signs of a submucous cleft if there is any suspicion. These signs include a bifid uvula, notching of the posterior nasal spine, or translucency in the mid-palatine region of the soft palate due to lack of muscle.

Principles and technique of Palate repair

Release and replace the anomalies insertion of the levator palatine muscle and connect them of in the midline at the connection of the middle and posterior third of the soft palate, in order to correct elevation of the soft palate are the main principle of cleft palate repair⁴⁰. In hard palate, the principle is to reflect mucoperiosteal flaps based on the great palatal arteries which exit from the greater palatine foramen bilaterally at the postero-lateral area of the hard palate.

Le Monnier, French dentist in 1760s who first attempted repair of cleft palate, followed by several other surgeons. The use of mucoperiosteal flaps for cleft palate surgery who was first described by Von Langenback⁴¹⁻⁴²

The two-flap palatoplasty is a commonly used surgical technique for repair of the complete bilateral and unilateral cleft of the palate. The incision made from cleft margins to the alveolus to the base of the uvula and reflect bilateral full-thickness mucoperiosteal flaps. In order to reposition horizontally and suture the levator palatine muscles are released and dissected. The decrease the tension in the midline were made from bilateral releasing incision⁴³

Complications of Cleft Palate Repair Procedures

Both immediate perioperative and non perioperative complications, can arise from cleft palate repair. The perioperative complications include bleeding, wound dehiscence, tongue swelling, and respiratory compromise. While fistula formation and velopharyngeal dysfunction can occur years later. Fistula formation has been reported in between 0% and 20% of patients, depending on the surgeon and institution⁴³. The uncommon complication of cleft repair is tongue edema, but has been reported in many studies. To against post tongue swelling, many studies suggest intermittent lingual release during procedure every 20 minutes of compression⁴⁵. A great retrospective study of a thousand patients occurs in approximately 8.7 per 100 of cases has been shown for airway complications⁴⁶⁻⁴⁷.

Case Report

Clinical Examination

A 6-years-old boy patient reported to the Departement of Oral Surgery and Maxillofacial, Cipto Mangunkusumo National Hospital with chief complaint choking while eating due to Palatal Cleft. Patient reffered from Pediatric Departement and Heart Center with Ventricle Septum Defect (VSD), Patent Ductus Arteriosus (PDA), Pulmonary Artery post Blalock-Taussig Shunt (BT-Shunt) and Rastelli procedure. Patient was premature birth (8 months), and had complete vaccination. The patient had no complaints of pain and fever. The patient denied a history of food or drug allergies. Based on clinical examination, the patient had facial assimetry. Oral hygiene was moderate. Bilateral Cleft Palate on hard palate and soft palate.



Fig.1 Pre operative clinical features of patient



Fig.2 six months control post operative

Procedures

On December 4th 2018, the patient had his surgical procedure performed in Central Surgery Installation in Cipto Mangunkusumo National Hospital. Previously, the patient had has the labioplasty procedure in 2015 performed by Plastic Surgery Department. The patient was prepared in supine position in general anesthesia. Dingman mouth spreader installation with tongue fixator. Incision design was made medially to maxillary tuberosity. From this point, the line elongated to pterygomaxilla raphae in anterior tonsil. Design was made in two sides as well.

Injection the local anestheticum with ephinefrin in 200 ml NaCl 0.9%. The incision was performed laterally start from processus alveolaris. Deepening the incision using Metzenbaum Paediatric scissor. The veli palatine muscle tendon was raised posteriorly from processus Hamulus, and then continued with Edgerton procedure. The uvula was held with some soft clamp and the incision was performed on the both sides of cleft with blade no. 11. The next incision with previously made design as guidance using blade no. 15. Separate the mucoperiosteal tissue in oral region between the cleft side and lateral side. The tissue was clamped using Adson-Brown and separation was performed using dental currette so there were two layers and then both sides was linked in midline. The nasal mucoperiosteum tissue in midline was separated in both sides of flaps and then linked in midline. The full thickness incision was made on the top of vomer bone and each flap was linked with nasal mucous in the same side. The closure of nasal mucous layers started from the top of uvula and continued to anterior. The closure of muscles by linked the muscled from both sides. Continued with the closure of oral mucous by linked the flaps from both sides to midline and the suture with vicryl 6.0.

The procedure was taken time 7 hours and 19 minutes of operation. The bleeding was 50 ml. The patient was intensively monitoring in picu for 6 days because there were swelling in upper airway. And the extubation was delayed.

Discussion

It is such an unpleasant experience and challenging for an anesthesiologists and also for surgeons to that there were respiratory problems after the surgery. The main concerns in cleft palate repair during extubation are hemorrhage and upper airway obstruction. The massive tongue edema ater palatoplasty procedure, is rarely reported in literature and could be a source of great concern and challenge to the anesthesiologist. There are case reports of massive tongue edema following other procedures too. Many studies suggests that the long duration of surgery and long oral intubation has a direct connection with the increased incidents of tongue swelling and complications related to respiration.

Bell et al 1998 suggested excessive pressure applied to the base of tongue by the retractor oral producing glossal edema, ischemic necrosis of tongue muscles, vestasis of the venous or lymphedema. The

impaired arterial flow and decreased venous drainage of the upper respiratory tract are contribution of hyperextension position of the head and Trendelenberg position. Other suggest mechanism of glossal edema are came from trauma mechanism, allergy, infection and massive fluid load intraoperative.

Conclusion

The post operative complications due to palatoplasty procedure such as great tongue swelling which were well managed by delayed extubation, raised position, steroid medication and prolonged pediatric intensive care monitoring.

References

1. Millard DR: Alveolar and Palatal and Deformities. Cleft Craft. Little, Brown & Co.; 1980
2. Anderson L, Kahnberg KE, Pogrel MA. Oral and Maxillofacial Surgery. Wiley-Blackwell 2010; 45: 955
3. B.C. Sommerlad, A technique for cleft palate repair, *Plast. Reconstr. Surg.* 112 (2003) 1542–1548
4. E.B. Katzel, P. Basile, P.F. Koltz, J.R. Marcus, J.A. Girotto, Current surgical practices in cleft care: cleft palate repair techniques and postoperative care, *Plast. Reconstr. Surg.* 124 (2009) 899–906
5. G.S. Deshpande, A. Campbell, R. Jaqtap, C. Restrepo, H. Dobie, H.T. Keenan, et al., Early complications after cleft palate repair: a multivariate statistical analysis of 709 patients, *J. Craniofac. Surg.* 25 (2014) 1614–1618.
6. Desalu I, Adeyemo W, Akintimoye M, Adepoju A. Airway and respiratory complications in children undergoing cleft lip and palate repair. *Ghana Med J.* 2010;44:16-20.
7. Fillies T, Homann C, Meyer U, Reich A, Joos U, Werkmeister R. Perioperative complications in infant cleft repair. *Head Face Med.* 2007;3:9.
8. Nguyen C, Hernandez-Boussard T, Davies SM, Bhattacharya J, Khosla RK, Curtin CM. Cleft palate surgery: an evaluation of length of stay, complications, and costs by hospital type. *Cleft Palate Craniofac J.* 2014;51:412-419.
9. Antony AK, Sloan GM. Airway obstruction following palatoplasty: analysis of 247 consecutive operations. *Cleft Palate Craniofac J.* 2002;39:145-148
10. Jackson O, Basta M, Sonnad S, Strieker P, Larossa D, Fiadjoe J. Perioperative risk factors for adverse airway events in patients undergoing cleft palate repair. *Cleft Palate Craniofac J.* 2013;50:330-336.
11. Kulkarni KR, Patil MR, Shirke AM, Jadhav SB. Perioperative respiratory complications in cleft lip and palate repairs: an audit of 1000 cases under 'Smile Train Project.' *Indian J Anaesth.* 2013;57:562-568.
12. Bordet F, Allaouchiche B, Lansiaux S, Combet S, Pouyau A, Taylor P, Bonnard C, Chassard D. Risk factors for airway complications during general anaesthesia in paediatric patients. *Paediatr Anaesth.* 2002;12:762-769.
13. von Ungem-Sternberg BS, Boda K, Chambers NA, Rebmann C, Johnson C, Sly PD, Habre W. Risk assessment for respiratory complications in paediatric anaesthesia: a prospective cohort study. *Lancet.* 2010;376:773-783.
14. Bale J, Stoll B, Lucas A. Reducing Birth Defects: Meeting the challenge in the Developing World. Washington, DC: National Academies Press, 2003
15. Mossey P. Epidemiology underpinning research in the aetiology of orofacial clefts. *Orthod Craniofac Res* 2007; 10:

114–20.

16. Forrester MB, Merz RD. Descriptive epidemiology of oral clefts in a multiethnic population, Hawaii, 1986-2000. *Cleft Palate Craniofac J* 2004; 41: 622–8.
17. Vanderas AP. Incidence of cleft lip, cleft palate, and cleft lip and palate among races: a review. *Cleft Palate J* 1987; 24: 216–25.
18. Marazita ML, Mooney MP. Current concepts in the embryology and genetics of cleft lip and cleft palate. *Clin Plast Surg* 2004; 31: 125–40.
19. Cooper ME, Ratay JS, Marazita ML. Asian oral-facial cleft birth prevalence. *Cleft Palate Craniofac J* 2006; 43: 580–9.
20. Mossey PA, Little J. Epidemiology of oral clefts. In: *Cleft Lip and Palate: From Origin to Treatment* (Wyszynski DF, ed.). Oxford: Oxford University Press, 2002; 127–58.
21. Melnick M, Bixler D, Fogh-Andersen P, et al. Cleft lip+/- cleft palate: an overview of the literature and an analysis of Danish cases born between 1941 and 1968. *Am J Med Genet* 1980; 6: 83–97.
22. Fraser GR, Calnan JS. Cleft lip and palate: seasonal incidence, birth weight, birth rank, sex, site, associated malformations and parental age. A statistical survey. *Arch Dis Child* 1961; 36: 420–3
23. Schliekelman P, Slatkin M. Multiplex relative risk and estimation of the number of loci underlying an inherited disease. *Am J Hum Genet* 2002; 71: 1369–85.
24. Blanton SH, Bertin T, Patel S, et al. Nonsyndromic cleft lip and palate: four chromosomal regions of interest. *Am J Med Genet A* 2004; 125A: 28–37
25. Vieira AR, Avila JR, Daack-Hirsh S, et al. Medical sequencing candidate genes for nonsyndromic cleft lip and palate. *PLoS Genet* 2005; 1: e64.
26. Eppley BL. The spectrum of orofacial clefting. *Plast Reconstr Surg* 2005; 115: 101–14e.
27. Jugessur A, Murray JC. Orofacial clefting: recent insights into a complex trait. *Curr Opin Genet Dev* 2005; 15: 270–8.
28. Vieira AR. Unraveling human cleft lip and palate research *J Dent Res* 2008; 87: 119–25.
29. Zuccherro TM, Cooper, ME, Maher BS, et al. Interferon regulatory factor 6 (IRF6) gene variants and the risk of isolated cleft lip or palate. *N Engl J Med* 2004; 351: 769–80.
30. Little J, Cardy A, Munger RG. Tobacco smoking and oral clefts: a meta-analysis. *Bull World Health Organ* 2004; 82: 213–18
31. Kallen K. Maternal smoking and orofacial clefts. *Cleft Palate Craniofac J* 1997; 34: 11–16.
32. Chung KC, Kowalski CP, Kim HM, et al. Maternal cigarette smoking during pregnancy and the risk of having a child with cleft lip/palate. *Plast Reconstr Surg* 2000; 105: 485–91.
33. Meyer KA, Williams P, Hernandez-Diaz S, et al. Smoking and the risk of oral clefts: exploring the impact of study designs. *Epidemiology* 2004; 15: 671–8.
34. Eppley BL. The spectrum of orofacial clefting. *Plast Reconstr Surg* 2005; 115: 101–14e.
35. Global strategies to reduce the health care burden of craniofacial anomalies: report of WHO meetings on international collaborative research on craniofacial anomalies. *Cleft Palate Craniofac J* 2004; 41: 238–43.
36. Cohen MM. Etiology and pathogenesis of orofacial clefting. *Oral Maxillofac Surg Clin N Am* 2000; 12: 379–97.
37. Millard D. *Cleft Craft: The Evolution of its Surgery*. Vol. 1: The Unilateral Deformity. Boston, MA: Little, Brown, 1977
38. Van Aalst JA, Kolappa KK, Sadove M. MOC-PSSM CME article: Nonsyndromic cleft palate. *Plast Reconstr Surg* 2008 121 (Suppl): 1–14.
39. Rohrich RJ, Love EJ, Byrd HS, et al. Optimal timing of cleft palate closure. *Plast Reconstr Surg* 2000; 106: 413–21
40. Kriens OB. An anatomical approach to veloplasty. *Plast Reconstr Surg* 1969; 43: 29
41. Mathes SJ, Hentz VR. *Plastic Surgery*, 2nd edn. Philadelphia, PA: Saunders Elsevier, 2006.
42. Sadove AM, van Aalst JA, Culp JA. Cleft palate repair: art and issues. *Clin Plast Surg* 2004; 31: 231–41.

43. Katzel EB, Basile P, Koltz PF, Marcus JR, Girotto JA: Current surgical practices in cleft care: Cleft palate repair techniques and postoperative care. *Plast Reconstr Surg* 124(3):899-906, 2009
44. Chan MT, Chan MS, Mui KS, Ho BP: Massive lingual swelling following palatoplasty. An unusual cause of upper airway obstruction. *Anaesthesia* 50(1):30-34, 1995
45. Senders CW, Eisele JH: Lingual pressures induced by mouthgags. *Int J Pediatr Otorhinolaryngol* 33(1):53-60, 1995
46. Kulkarni KR, Patil MR, Shirke AM, Jadhav SB: Perioperative
47. respiratory complications in cleft lip and palate repairs: An audit of 1000 cases under 'Smile Train Project'. *Indian J Anaesth* 57(6): 562-568, 2013 10.
48. Wray C, Dann J, Holtmann B: A comparison of three techniques of palatorrhaphy: In-hospital morbidity. *Cleft Palate J* 16(1):42-45, 1979