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

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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
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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

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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 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.

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CASE REPORT

Apex Resection On Post Endodontic Treatment Tooth With Periapical Cyst

Fani Pangabdian
Department of Conservation, Faculty of Dentistry, Hang Tuah University Surabaya

ABSTRACT

Background: *Apex resection is the most surgical effort in endodontic surgery due to its high survival rate. Apex resection especially indicated for periapical lesion cases with open apex involvement that cannot be managed with conventional endodontic (retreatment). The main goal of apex resection is to prevent bacterial leakage from the root-canal system into the periradicular tissues by placing a tight root-end filling following root-end resection.* ***Purpose:*** *This case report want to show that the apex resection is the choice of treatment on post endodontic treatment with radicular cystic.* ***Case and Case Management:*** *A 40 years age women in maxillary anterior teeth (central incisors left first) post endodontic treatment 2 years ago. Clinically, tooth discoloration becomes greyishbrown and the patient often complain of pus came out from the labial tooth. Apex resection treatment.* ***Conclusion:*** *Maxillary central incisors left first on post endodontic treatment with radicular cystic can be successfully managed by apex resection.*

Keywords : *apex resection, post endodontic treatment, radicular cyst*

Correspondence : *Fani Pangabdian, Department of Conservation, Faculty of Dentistry, Hang Tuah University, Jl. Arif Rahman Hakim 150 Surabaya, Indonesia, Phone: (031) 5945894, 031-5912191, Email : konser_pangabdian@yahoo.com*

BACKGROUND

Apex resection is a form of periapical surgery that most performed and most common. [1]Where one goal apex resection is to ensure the placement of a cover material exactly between periodontium and root canal foramen.[1] If obturation ortogradly is not unsatisfied , then a surgical procedure can control and manipulate the material placement area with fillings. The better obturation in the apical region, so the prognosis and success rate is better.[2]

The apex resection is hopefully dispose of pathological tissue at root tip and also get rid of the root tip with root canal and ramifications that infected while at the same time close that tip root to prevent infection in the future days. The ideal healing expected from the apex resection is regeneration bone, apposition cement, and formation of structure that resemble the new periodontium tissue around the teeth.[3,4]

CASE

A 40 years-old-female come to RSGM FKG UHT Surabaya with complaint of the maxillary anterior teeth (central incisors left first) often excrets the pus at the gums. The teeth has received root canal treatment 2 years ago. On clinical examination, the appearance of teeth 21 had changed colour to greyishbrown shows with existent of fistula at mucosa gingiva on labial part and pus came out from the fistula.

Radiography examination shows that obturation is not hermetic, is not reaching the apex, periapical region shows radiolucent well-defined with diameter 4 mm and spread into apical teeth 22. Based on the examination, the diagnose of teeth 21 is post endodontic treatment with periapical lesion. The treatment plan is done by retreatment of root canal with apex resection and obturation retrogradly with MTA.

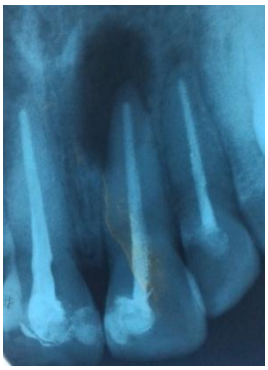

Figure 1: Radiograph (pre-operative)

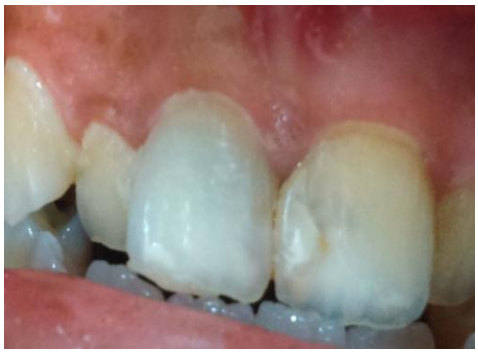

Figure 2: Clinical (pre-operative)

CASE MANGEMENT

First visit. First we do the diagnose, taking extra oral photo (digital), root canal filling removed and preparation root canal biomecanic using K-file until enlargement number 80. After the root canal is irrigated and dried, do obturation sealer is done using gutappercha that smears with canal cement. Periapical photo is recreate to evaluate the result of obturation. Then cavity filled using temporary filling. Second visit. Operation preparation, the patient is informed about the procedure on what will be done and what must be done on post operation. Patient fill the agreement operation procedure and sign the informed consent. Then we end list the step of the operation, like : disinfection the operation area, infiltration anasthesi supraperiosteal at apex region of teeth 21 with phcaine 2 cc, flap incision semilunar region 21 and 22, also reflection of the tissue with rasparatorium, bone opening or apex exist until apex 21 and 22, because there is pus existence so we do punction to take the pus with spuit and then do periapical curettage done with irrigation with saline sterile, the apex tip is cut with inclination of 45 degrees to axial teeth using fissure surgical bur until the tip of gutappercha appeared, preparation of apex tip with small round bur, the closing of teeth apex cavity in retrograde with using MTA, bone graft application, returning the composition of the former composition flap and do the suturing with 4 sutures, radiology photo post apex resection, post operation instruction and reminder to control a week later and prescribe NSAID, antibiotic and analgesic drug.

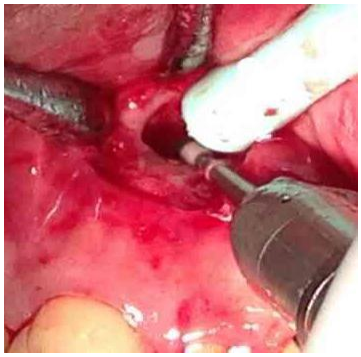

Figure 3: Bone opening

Figure 4 : Curettage

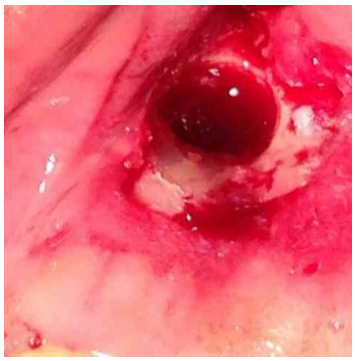

Figure 5 : Root Resection

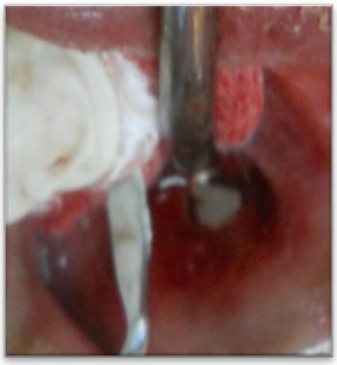

Figure 6 : MTA placement

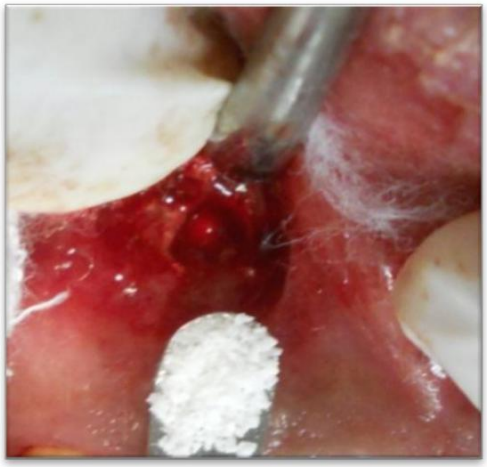

Figure 7 : Bone graft aplication

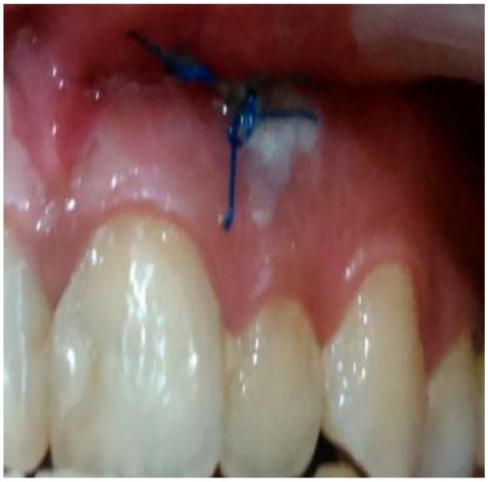

Figure 8 : Suturing

Third visit. A week control post operation. The surface of wound is clean with antiseptic solution, the string is cut and taken, evaluation with radiography 5 weeks later post operation, shows the sign of healing and reparation at alveolar bone cavity with radiopaque appearance.

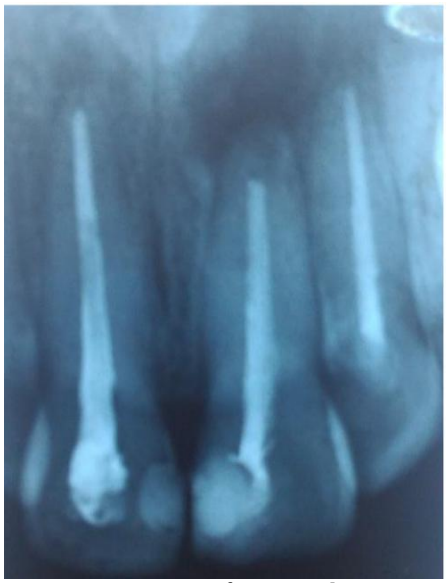

Figure 9: After 1 week

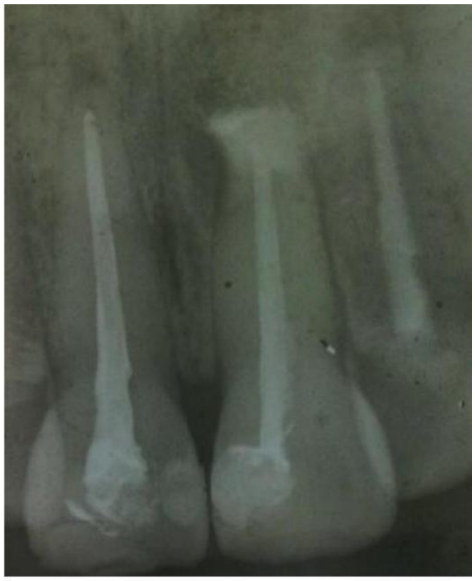

Figure 10: After 5 weeks

DISCUSION

Results of evaluation of dental radiographs showed 21 post treatment dental root canal filling is not perfect and is accompanied periapical abnormalities to overcome the failure of treatment, root canal treatment should be repeated, so as to prevent the development of more extensive periapical lesions.[2,3] Then do apex resection surgery to ensure the placement of a substance or fillings with right between the periodontal and root canal foramen. endodontic surgical care measures reported by Friedman can deliver success 73% to 99% when combined with endodontic treatment.[5]

Strategy to remove low density guttaperca charging preceded by making grooves using a K-file # 15, which is inserted between the guttapercha and the canal walls with a working length estimation of photos diagnosis. after forming a groove, extirpation file inserted into the groove and rotated half a turn pulled out. The next stage doing biomechanical preparation of the root canal, using techniques stepback.[6] Election this technique because generally lumen anterior root canals large and shaped oal. cleaning and shaping the root canal reaches a maximum in the K-file # 80.[1,7] Irrigation is done every turn of the file to use as much as 2.5% NaOCl solution 2,5ml acid, ethylene-diaminetetraacetate (EDTA) 15% as much as 1ml, and chlorhexidine (CHX) 2,5ml as much as 0.2ML.[8]

Root canal filling using sterilize main guttap percha that's smear with canal cement with main component is resin with calcium hydroxide included.[9] The filling is using vertical condensation technique so that we can get result of thick root canal filling.

Root canal filling is done first with intention to prevent blood contamination to the root canal system if done in the same at operation procedure, after that to shorten the operation time.[2,10] The final restoration at teeth 21 is post crown because to repair the teeth esthetic that have changed colour.

At this stage of operations, mucogingival flap incision design with two incision lines to facilitate mucosal flap elevation and retracted to obtain sufficient field of view so that the apex of the tooth 21 seen, in addition to aesthetic considerations post-healing wounds. Closure apex of the tooth cavity in retrograde, aim to prevent the intrusion of system fluid into the root canal system, that can lead to the development of microorganisms in the root canal system and result in treatment failure.[3,11]

Apex covering materials used are MTA, contents of MTA are calcium silicate CaSiO3, bismuth oxide Bi2O3, calcium carbonate CaCO3, calcium sulfate CaSO4 and calcium aluminate CaAl2O3.[12] When mixed with water MTA will form amorphous calcium oxide crystal. This material will glue well on the surface of the root end and the apex cavity when the surface was cleaned from dentin debris and dried , after the excess material removed and cleaned although this material in bone cavities do not give inflammatory reaction. MTA has excellent biocompatibility with pH of 12,5 and a very low toxicity that included materials that are non-cytotoxic and non-mutagenic.[13,14] In addition, it has the ability to act as an anti bleeding due to the effects vasoconstriction that contained in calcium ions that influx into calcium canal so that the contractile effect block by calcium

canal blocker nifedipine.[14] Evaluation results of retrograde filling materials MTA can be seen radiographically in density gives an overview radiopaque for their content of bismuth oxide as a contrast material.[15,16]

Sewing the flap into it's original position aims to get completely wound closure and prevent secondary infection during the wound healing process.[16] In five weeks postoperative, radiographic evaluation showed the healing and repair of the alveolar bone cavity. It appears as a radiopaque picture is more apparent when compared with periapical photo before maintenance actions. This situation is possible because of the bone graft that helped spur the growth of new bone.[2,13,16]

CONCLUSION

Maxillary central incisors left first on post endodontic treatment with periapical lesion can be successfully managed by retreatment of root canal with apex resection and obturation retrogradly with MTA. Re-obturation root canal with main guttappercha and root canal cement also procedure close root tip with MTA is the best choice for this case. Examination post operation included pain is gone and insision has healed without scars.

REFERENCE

1. Stock C et al. Textbook of endodontics 3rd ed. Elsevier Mosby; 2004, p. 225-47
2. Ingle Jl, Backland Lk and Baumgartner JC, 2008. In Ingle Endodontics 6 ed, BC Decker Inc, Ontario. P: 999-1001
3. Kim, S.,Pecora, G., Rubinstein, R. 2002. Osteotomy and apical root resection in Color atlas of Microssurgery in Endodontics. WB Saunders, Philadelphia. P85-114
4. Torabinejad, M., McDonald, N.J., 2009. Endodontic Surgery. In Endodontics Principles and Practice. Saunder Elsevier, Philadelphia.
5. Friedman, S. 2005. The Prognosis and espected outcome of apical surgery. In Endodontic Topic. 11: 2
6. Torabinejad, M. 1994. Passive stepback technique. Oral Surg, Oral Med Oral Pathol 77:398
7. Shahravan, A., Haghdoost, A.A., Alireza, A., and Rahimi, H., 2007, Effect of Smear Layer on Smear layer on Sealing Ability of canal Obturation: A Systematic Review and Meta-Analysis, J. Endod.33:96-105.
8. Regan, J.D. dan Gutmann, J.L., 2004, Preparation of The Root canal System, dalam Harty's Endodontics in Clinical Practice, Pitt Ford T.S., ed ke-5, Wright, Edinburgh. P: 77-94
9. Schmalz, G., 2003, Root Canal Filling Material, in Textbook of Endodontology. Bergenholtz, G., Bindslev, P.H., reit, C., Blackwell Munksgaard, United Kingdom. P: 276-278
10. Villegas, J.C., Yoshioka, T., Kobayashi, C., and Suda, H., 2004, Three-Step Versus Single-Step Use of System B: Evaluation of Gutta-Percha Root Canal Fillings and Their Adaptation to the canal Walls, J. Endod. 30: 719- 721
11. Fogel HM and Peikof MD, 2001. Micro leakage of root end filling materials. J. Endod 27(7): 456-8
12. Torabinejad, M., and Chivian, N., 1999, Clinical Applications of Mineral Trioxide Aggregate. J. Endod. 25: 197-205
13. Torabinejad M, Walton RE, 2008. Principles and Practiceof Endodontics, 3 ed.
14. Sarkar, N.K., Caicedo, R., Ritwik, P., and Moiseyeva, R., 2005, Physicochemical Basis of the Biologic Properties of Mineral Trioxide Aggregate, J. Endod. 31:97-100
15. Liewehr, F., Kulild, J.C., Primack, P.D., 1993, Improved ensity of Gutta-percha after Warm Lateral Condensation, J. Endod. 19:489-491
16. Strepco, J.J., Doyon, G.E., and Gutmann, J.L.2005. Root-end management resection, cavity preparation and material placement. In endodontic Topic 11, 131-151

Dentosphere 3

COLTENE

CERTIFICATE

SURABAYA
26-27 AUGUST 2016

This Certificate Is Presented to

Fani Pangabdian

As
Speaker

At Scientific Meeting

Dentistry Update & Scientific Atmosphere

Current Concepts and Technology in Improving Dental and Oral Health Care

Dr. Dian Mulawarmanti, drg., MS
Dean Faculty Of Dentistry
Hang Tuah University

518014295

Dwi Hariyanto, drg., M.Kes
Chairman

MAIN LECTURE

Topic	Speakers	Duration
1. Occlusal schemes in complete denture	Prof. Fumiaki Kavano	60 minutes
2. Discussion	Dr. Anthony Tay, BDSc	60 minutes
3. Porous titanium for bone substitute materials	Assoc. Prof. Yoshihito Naito, DDS., PhD	60 minutes
4. Dentistry's role in mass disaster	AKBP. Drg. Ahmad Fauzi,MM, GDipForOdont	60 minutes
5. Basic research for development of oral hygiene products	Prof Joong Ki-Kook	60 minutes
6. Dental Readiness in Military Dentistry	Kol. Laut (K) Ridwan Purwanto, drg., MARS-Ladokgi	60 minutes
7. Occlusion Updated: a Whole Elephant Perspective	Dr. Yue Weng Cheu, BDS., FRACDS.,MJDF RCSEng	60 minutes
8. Things about root canal dilacerations	Marino Sutedjo., drg., SpKG	60 minutes
9. Irrigation at The One-Third of The Apical Root	HM Bernard O Iskandar, drg., SpKG	60 minutes
10. Emulating Nature : Dental Photography and Clinical Connection	Onny Eryanto, drg	60 minutes
11. Restorative Chalenges and Treatment Option for Primary Teeth	Assoc. Prof . Nagarajan M.PS	60 minutes
12. Biological Response Around Graft and Implant (Respon Biologis di Sekitar Cangkok Tulang dan Implant)	Ika Dewi Ana, drg., PhD	60 minutes
13. Current concepts of dental caries in children	Udijanto Tedjosasngko, drg., PhD	60 minutes
14. Exploration of marine biota and hyperbaric oxygen therapy in dentistry	Dr. Dian Mulawarmanti, drg., MS	60 minutes
15. Posterior composite restoration fast, efficient and aesthetic treatment	Dr NG Si Hao Andrew	60 minutes
16. Timing of Orthodontic Treatment	Dr. Retno Widayati., drg., SpOrt (K)	60 minutes

No Skp : SKP-1/518/PB PDGI VII/2016

PARTICIPANT	: 7,5 SKP
SPEAKER	: 4 SKP
MODERATOR	: 3 SKP
COMMITTE E	: 3 SKP
PARTICIPANT TC	: 3,5 SKP
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2. TC 2 Marino Sutedjo, drg., Sp.KG	Shaping wit The Golden Era	180 minutes
3. TC 8 Dr. Anthony Tay BDSc	Achieving Aesthetic and Excellence with Modern Composite	180 minutes
4. TC 4 Widyastuti, Sp. Perio	Management of Gingival Recession	180 minutes
5. TC 5. Dr.Arya Brahmanta, drg., Sp.Ort	Application of Removable Orthodontic Functional Appliance	180 minutes
6. TC 6 Dr. Taufan Bramantoro, drg., M.Kes Dwi Hariyanto, drg., M.Kes	Unit Costing in Dental Practice	180 minutes
7. TC 7 Onny Eryanto, drg.	Emulating Nature : Dental Photography and Clinical Connection	180 minutes