The 1\textsuperscript{st} Bali International Dental Symposium

Steffano Aditya Handoko\textsuperscript{1}

ABSTRACT

Knowledge and technology in the field of advanced dentistry is very fast and more modern, making it easier for dental work in dealing with patients today. Bali offers not only natural beauty and culture but also provides good dental services and dental care at affordable prices when compared to other countries. The increasing number of local and foreign patients has caused many dentists in Bali to compete increase their knowledge and provide the latest dentistry tools. Therefore, Bali International Dental Symposium was held to develop the knowledge and skills to become a professional person. In relation to science and technology in the field of dentistry, Dentistry Education of Medical Faculty, Udayana University is responsible for always leading the way to create graduates who are able to compete in national and international level. As well as helping to improve the competence and update of dentistry knowledge in Bali in particular and Indonesia dentist in general. According to that reason, we as educator staff within School of Dentistry, Faculty of Medicine, Udayana University intend to implement the first International Seminar called Bali International Dental Symposium (BIDS) which will be held biannually in Bali.

Surgical Transplantation of Impacted Maxillary Incisor: Case Report

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ABSTRACT

Introduction: Patients with impacted maxillary incisor is a rare case presented in polyclinic Oral and Maxillofacial Surgery Gunung Jati General Hospital Cirebon. This case can have a major impact on dental and facial aesthetics. Case: A 16 years old female with horizontally impacted permanent maxillary on right central and lateral incisor with retained of right lateral of deciduous incisors and canine. Panoramic and upper occlusal radiographs showed horizontally impacted of right central and lateral incisor. The purpose of this paper was to present the surgical exposure treatment. The treatment plan including the extraction of retained deciduous teeth, surgical extraction of the impacted tooth and transplantation of right central and lateral incisor into former socket revocation, continue with interdental wiring with arch bar from right maxillary second premolar to left second premolar, and alignment to achieve normal occlusion. After three months, the tooth was stable and the alignment was proper. Conclusion: Management of impacted maxillary incisor with surgical transplantation was a successful treatment for this case.

Keyword: impacted maxillary incisor, transplantation, interdental wiring.
Comparison of Three Flap Designs on Post-Operative Complications After Third Molar Surgery

Arinda PK¹, Indrapradana A¹

ABSTRACT

Introduction: Third molar surgery can cause post-operative complications to the patient due to the presence of wound from the incision. The study aimed to compare modified triangular (triangular reverse) flap with triangular and envelope flap on post-operative complications by the measurements on post-surgical swelling, trismus, pain scale, wound dehiscence and the occurrence of alveolar osteitis.

Method: A single-blind randomized clinical trial was used. Each treatment group consisted of 10 patients. Assessment was performed on day 1, 7 and 14 after surgery. Swelling was measured using different anatomical points, and trismus was measured using the distance of inter-incisal opening. The occurrence of dehiscence was measured from the width of the incision line. Alveolar osteitis and pain scale was observed.

Result: The results of one way ANOVA (p<0.05) shows there was no difference between treatment groups both for swelling and mouth opening, but there was a difference between treatment groups for dehiscence on days 7 and 14. The results of the Post Hoc test show that flap envelope differs from the other flap design, whereas triangular and triangular reverse flap showed no difference. Friedman test results (p <0.05) showed no difference in VAS score. No Alveolar Osteitis occurred in each treatment group during postoperative control. Kruskal Wallis test showed that there was no difference of VAS score between treatment group during post-operative control.

Conclusion: The triangular reverse flap design may decrease the occurrence of post-operative complication after mandibular third molar surgery.

Keyword: Third Molar Surgery, Post Operative Complications, Modified Triangular Flap

The Management of Osteomyelitis at Mandible Due to Neglected Fracture: A Case Report

Anggayanti NA¹, Sjamsudin E¹, Syvyyana M, Rizky K¹

ABSTRACT

Introduction: Osteomyelitis is a inflammation of bone and bone marrow. It occur more frequent in mandible compare to maxilla and usually associated with suppuration and pain. This condition caused by many factors such as odontogenic infection, trauma, inadequate treatment of fracture or radiation. The purpose of this case report is to describe the management of osteomyelitis in young adult patient due to neglected jaw fracture.

Case: A 27 years old male came to Departement of Oral and Maxillofacial Surgery – Hasan Sadikin Hospital with an extra-oral draining sinus at his right mandible region after motorcycle accident about six months ago. OPG revealed a radiolucent mix radiopaque image surrounded by radiopaque cortical border, large sequestra and loss of trabeculae internal structure. Based on clinical finding and radiographic presentation, a diagnosis osteomyelitis was made. Under general anesthesia, surgical debridement, sequestrectomy, extraction of right mandible third molar and fixation using titanium mini plate and screw was performed. The entire sinus tract was excised and the wound was sutured. The resected tissue was sent for histopathologic examination.

Conclusion: This case shows that sequestrectomy is a definitive method of treating osteomyelitis with satisfying clinical and radiologic result.

Keyword: Fracture, Osteomyelitis, Sequestrectomy
Management of Traumatic Intrusion of Permanent Teeth with Immediate Surgical Repositioning: A Case Report

Labitta K¹, Sylvyaba M¹

ABSTRACT

Introduction: Traumatic dental injuries (TDI) of permanent teeth frequently occur in children and young adults. Intrusive luxation is one of the most severe forms of traumatic injuries in which the affected tooth to displace deeper into the alveolus. As a consequence of this type of injury, maximum damage occurs to the pulp and all the supporting structures. The aim of this study is for proper diagnosis, treatment planning and follow up for improving a favorable outcome.

Case: A 14 years old male patient came to the emergency department of Hospital Dr. Hasan Sadikin with chief complaint of bleeding from mouth due to accident. Through clinical and radiographic examination discovered there was an intrusion of teeth 11, 21. The intruded teeth was immediately repositioned and splinted within with Arch Bar. Antibiotic therapy was initiated at the time of repositioning and maintained for five days. Splint was removed one month later. Clinical and radiographic examination one month after the surgical extrusion revealed satisfactory progressive apical and periodontal healing. Intrusion injuries have the poorest prognosis and complex treatment among all tooth injuries. No consensus has been reached on the optimal treatment of this type of injuries. The recommended treatment options for intruded teeth include the following: Allowing spontaneous eruption of the teeth, immediate surgical repositioning and fixation and orthodontic repositioning. The treatment has to be adaptable according to complications.

Conclusion: Further surgical repositioning in the presented case with one month follow up proved to be a viable treatment method for intruded teeth without any additional risk of resorption.

Keyword: Dentoalveolar fracture, Intrusive luxation, splint, surgical extrusion.

Periapical Cyst due to Dental Treatment Failure: A Case Report

Ariyana F¹, Sylviana M¹

ABSTRACT

Introduction: Periapical cyst is the most common disease, found in dental practice compared to other kind of cyst. Periapical cyst is the further development from the tooth infection that caused by decay. Untreated decay will cause pulpitis then necrose of pulp. After the tooth is necrose, eventually will formed periapical cyst.

Case: A 22 years old female patient came to Oral and Maxillofacial Surgery clinic at Hasan Sadikin General Hospital with swelling at her palate since eight months ago. Through clinical and radiography examination discovered there was radicular cyst at teeth 21, 22, impacted of tooth 48, radix of tooth 16 and necrose pulp of teeth 21, 22, 34, 44. The cyst was managed by enucleation, odontectomy of impacted tooth and extraction of radix and necrose pulp. Prognosis of treatment is good. The treatment of periapical cyst includes conventional nonsurgical root canal therapy when lesion is localized or surgical treatment like enucleation, marsupialization when lesion is large. The enucleation should be performed with care, in an attempt to remove the cyst in one piece without fragmentation, which reduces the chance of recurrence.

Conclusion: The careful enucleation of periapical cyst may be done without complications, such as damage of periodontal structure.

Keyword: Enucleation, peripheral cyst, Necrosis pulp.
Management of The Submandibular Abscess Post Hemimandibulectomy: A Case Report

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Abstract

Introduction: Hemimandibulectomy is a surgical procedure performed for resection or partial removal of mandibular bone (jaw). Hemimandibulectomy known as a radical action that is indicated to remove oral tumors of both malignant and benign tumors. As an operative therapy, hemimandibulectomy also has several possible complications such as recurrence of tumor mass, lack of structuring or supportive bone support, or complications such as infection. Infections that occur in the lower jaw, one of them is a submandibular abscess, which in this case found fistula at the location of the installation.

Case: Prospective Case Study, with subject from DR. Hasan Sadikin Hospital, Bandung. A 24 years old female patient came to the Dr. Hasan Sadikin hospital with swelling at left lower jaw. About seven days before admission, the patient complained of pain at left lower jaw. The swelling begins when the patient has a collision in the post hemimandibulectomy area, which then become edema, enlarges and contains pus, which after examination is then diagnosed as a submandibular abscess. Post hemimandibulectomy procedure, good maintenance or post-treatment are needed. Hygiene and “must Do or Don’t” home care is one of the aspect that prove the success of the treatment. The patient who has undergone the hemimandibulectomy procedure have to present a home care procedure for himself.

Conclusion: Considering of post hemimandibulectomy, therapeutic measures for submandibular abscess are still performed according to the procedures in the oral surgical department of Dr. Hasan Sadikin Hospital.

Keyword: submandibular abscess, hemimandibulectomy, infection

Effect of Probiotic Supplementation of Lactobacillus casei on Siga Levels in Saliva of Wistar Rats

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Abstract

Introduction: Secretory Immunoglobulin A (SIgA) is an antibody that plays an important role in mucosal immunity, plays a role in the epithelial receptor blockade inhibitory the attachment of pathogenic bacteria to epithelial cells especially Streptococcus mutans. Lactobacillus is a bacterium found in probiotics, which can increase the proliferation of cells that produce SIgA. This study aims to determine the effect of Lactobacillus casei probiotic supplementation for the increase levels of SIgA in the saliva of wistar rats.

Method: This is a prospective study utilizing experimental laboratory, with a simple randomized design. Thirty-six male wistar rat that met the inclusion criteria were randomly assigned to treatment and control group following seven days of adaptation. The treatment group receives Lactobacillus casei probiotic supplementation of 1.17 ml/200g/BW two times a day, and the control group only gets water. This intervention was carried out for 14 days. SIgA level examination is conducted by ELISA Reader.

Result: Mann-Whitney analysis (p-value = 0.037) showed that SIgA levels between treatment and control group differed significantly with median levels 26.668 ng/ml and 4.463 ng/ml respectively.

Conclusion: We conclude that Lactobacillus casei probiotic supplementation increases the levels of SIgA in the saliva of experimental rats.

Keyword: Probiotic Lactobacillus casei, Secretory Immunoglobulin A (SIgA), Streptococcus mutans
Detection of Genotype gtf-B Streptococcus Mutans On Students at SDN 29 Dangin Puri, Bali-Indonesia

Ambarwati IGAD

ABSTRACT

Introduction: Streptococcus mutans play an important role in the formation of dental plaque as a cause of caries. The bacteria have glycosyltransferase enzymes that can convert saccharose saliva to extracellular polysaccharide (PSE) through glycosylation process. One of the virulence factors of Streptococcus mutans bacteria as the cause of dental caries is the gengtf-B Streptococcus mutans. This study aimed to detect gen gtf-B Streptococcus mutans in plaque with dental caries in students of SD Negeri 29 Dangin Puri.

Method: This study was conducted on 51 children as sample in SD Negeri 29 Dangin Puri who experience in plaque with caries. Bacterial culture was used to detect colonies of Streptococcus SP.

Then, there were performed gram staining, catalase test was also done to distinguish Streptococcus with Staphylococcus. After the result of negative catalase test, PCR Streptococcus mutans process has been done with size 517 bp and gen gtf B Streptococcus mutans with size 585 bp.

Result: The results of this research shows that Streptococcus mutans bacteria are as many as 19 samples from 51 samples (37.25%). Three samples from 19 isolates of Streptococcus mutans bacteria were detected with gen gtf B Streptococcus mutans (16%).

Conclusion: to lamina dura and alveolar bone around the teeth 21 and 22. The histopathologic examination found proliferation of lobular blood vessels, visible spotting spots. The conclusion of histopathology results is pyogenic granuloma with differential diagnosis peripheral ossifying fibroma. In term to distinguishing between pyogenic granuloma and peripheral ossifying fibroma, it is important to perform investigations to establish a definitive diagnosis. Based on the results of the anamnesis, clinical examination, support examination of reactive gingival lesions in patients were definitively diagnosed as pyogenic granulomas with differential diagnosis of peripheral ossifying fibroma.

Keyword: Plaque, Dental caries, PCR gft-B gene Streptococcus mutans

The Importance of Differentiating Pyogenic Granuloma from Peripheral Ossifying Fibroma: A Case Report

Patoni, Subipata GP, Rahmayanti F, Tjahjadi H, Susanto E

ABSTRACT

Introduction: There are several gingival reactive lesions such as pyogenic granuloma and peripheral ossifying fibroma, both of them have almost the same clinical features. Problems in establishing a definitive diagnosis and treatment plan will arise when the clinical appearance of the lesion found in the patient is similar to the clinical appearance of both lesions. The definitive diagnosis of the lesion can be established by anamnesis, clinical examination, and supporting examination.

Case: A 18years old female years patient, chief complaint is lumps on the upper left gum, red, no pain, and bleed easily. Clinical examination was found a mass of 5 x 10 mm in the interdental gingiva 21 and 22, irregular, bright red color, ulceration in the middle and edge of the lesion, the consistency is chewy, painless, bleed easily. Radiological examination found there was no damage to lamina dura and alveolar bone around the teeth 21 and 22. The histopathologic examination found proliferation of lobular blood vessels, visible spotting spots. The conclusion of histopathology results is pyogenic granuloma with differential diagnosis peripheral ossifying fibroma. In term to distinguishing between pyogenic granuloma and peripheral ossifying fibroma, it is important to perform investigations to establish a definitive diagnosis. Based on the results of the anamnesis, clinical examination, support examination of reactive gingival lesions in patients were definitively diagnosed as pyogenic granulomas with differential diagnosis of peripheral ossifying fibroma.

Conclusion: It is important for the dentist to be able to distinguish the two gingival reactive lesions, to provide proper treatment and prevent recurrences.

Keyword: Pyogenic granuloma, Peripheral ossifying fibroma, Definitive diagnosis
Necrotic Ulcers in Patient with Bicytopenia: A Case Report

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ABSTRACT

Introduction: Necrotizing Gingivostomatitis (NG) is a necrotic ulceration in gingiva and oral mucosa that commonly appears as an oral infection associated with anaerobe microbes, worsen by immunodeficiency, including hematologic disorder. Bicytopenia is a rare condition in which there is a decrease of two from three types of blood cells. It can be NG predisposing factor if erythrocyte one of the decreased parameter. This report described NG manifestation in patient with decrease of erythrocyte and platelet count, and how it is managed.

Case: A 49-year-old female was hospitalized in Cipto Mangunkusumo hospital with a diagnose of bicytopenia accompanied with idiopathic thrombocytopenic purpura (ITP). Extraoral founds blackish red crust on lips, pale sclera and skin. Intraoral revealed necrotizing tissues in whole mucous, poor oral hygiene and special malodor. Blood test result found significant decrease in hemoglobin, hematocrit, erythrocytes and platelet count. Increase ESR, leukocyte, and positive ANA. 3% hydrogen peroxide and oral chlorhexidine rinse four times/day, antibiotic prescription metronidazole and vaseline album adding with dexamethasone ointment, was applied to the management of the patient. The main role of erythrocytes as a transporter of nutrients and oxygen, if a decrease can cause hypoxia and whyponutrition so that anaerobic microbes have the opportunity to proliferate as a result of NG.

Conclusion: It is important for dentist to know clinical appearance of NG with predisposing factors including hematologic disorders such as bicytopenia so the dentist can give a proper treatment and collaboration with internal medicine specialists to manage that patient.

Keyword: Necrotizing Gingivostomatitis (NG), bicytopenia, ITP

Treatment of Bilateral Maxillary Buccal Exostoses with Gummy Smile: A Case Report

Lestari C¹, Marle H¹, Orienty FN¹

ABSTRACT

Introduction: Buccal exostoses is a benign, broad-based surface masses of the outer or facial aspect of the maxilla and less commonly at the mandible, usually found in the premolar and molar region. A definitive female sex predictions is characteristic of this condition. It is usually painless, self-limiting and may increase patient concern about poor esthetics. Gummy smile is an excessive gingival display during smiling which can occur in response to certain medications (e.g., phenytoin) or smaller than normal teeth due to developmental events, tooth eruption abnormalities, orthodontic treatments and even congenital disabilities. The objective of this treatment are to eliminate buccal exostoses and gingival overexposure with osseous respective surgery and crown lengthening for improve the aesthetics of the gingiva, especially on anterior teeth.

Case: A 30 years old female presented buccal exostoses with gummy smile on the buccal aspect from molar to caninus region of the bilateral maxillary arch. This case was managed by a combination of osseous resection surgery to treat exostosis and crown lengthening for removing alveolar bone and excessive gingival. Selection treatment for this case is osseous resective surgery and crown lengthening to remove the bone and achieving a physiological bone architecture bilateral exostoses, functional of gingiva and aesthetic. The surgical procedure was conducted to re-establishing the biological width, apically while exposing more tooth structure. The exostoses and gummy smile will lead to poor esthetics.

Conclusion: Osseous resective surgery and crown lengthening are the treatment option to make more proportional smile and achieving optimal aesthetics.

Keyword: exostoses, gummy smile, osseous resective, crown lengthening
Management Premature Loss of Primary Incisors Tooth with Removable Partial Denture: A Case Report

Hartami E¹

ABSTRACT

Introduction: Premature loss more common in primary tooth which caused by severe caries or trauma. This may result migration of the adjoining teeth and their antagonists to fill the space and may lead to malocclusion. Treatment with removable partial denture was used to restore masticating function, esthetics, speech and also as space maintainer. The purpose of current report is to observe removable partial denture as an alternative treatment for premature loss in children.

Case: Five-year-old boy came to Pediatric Dentistry Department in Brawijaya University Hospital, with chief of complaint edentulous ridge in decidual upper central incisors which had been extraction because of trauma. The boy felt lack of confidence with his teeth and have speech problem. The treatment was using removable partial denture every day except during sleep and exercise. The boy was comfortable and confident after using removable partial denture.

Conclusion: Success in treatment of removable partial denture in children is supported by good collaboration among child, parents, and dentist.

Keyword: Premature loss, removable partial denture, pediatric

A Comparison Assessment of Alveolar Bone Loss Using Bitewing, Periapical, and Panoramic Radiography

Manja C¹

ABSTRACT

Radiology in dentistry has an important role in obtaining information for diagnostic. There is some radiographic examination often used to measure alveolar bone loss such as bitewing, periapical and panoramic. This study aims to determine the accuracy of bitewing radiographs, periapical and panoramic on the assessment of alveolar bone loss. This research is using a cross sectional analytic method. The total samples using bitewing radiographs, periapical and panoramic respectively are 11 pieces radiographs for each. The results of this study is the average mean value of alveolar bone loss measuring as clinically in the skull is 2 mm, using bitewing radiographs is 2.2 mm, periapical radiographs is 2.3 mm, and panoramic radiographs is 2.6 mm. The accuracy of bitewing radiographs had the highest scores, while the accuracy of panoramic radiographs had the lowest value and the ratio percentage of accuracy between bitewing: periapical: panoramic is 90: 85: 70.

Keyword: bitewing, periapical, panoramic, alveolar bone loss
Fiber Reinforced Composite Splint as Initial Periodontal Therapy for Management Tooth Mobility Grade 2

Kosno S1, Cynthia NC1

ABSTRACT

Introduction: Fiber Reinforced Composite (FRC) Splint is an easy and adequate method for splinting teeth. The purposes of splint is to stabilize tooth mobility by provides some beneficial distribution of occlusal forces which can prevent further destruction. Tooth mobility can lead to the occlusion of unstable patients and impaired mastication function. This case report to described the management of patients who have tooth mobility grade 2 and a chronic periodontal abscess with non-surgical therapy techniques.

Case: A 52-year-old woman presented to Dental and Oral Education Hospital Andalas University with chief complain of tooth mobility, discomfort, and swollen gums on the right side of the tooth. Clinical examination shows dark red gingiva on palatal tooth 15, palpation (+), pain (+), and tooth mobility grade 2. Management of cases are Scaling and Root Planning (SRP), splinting curettage, and additional treatment of antimicrobials. After one month, there was decreased tooth mobility, the patient is comfortable, and the gingiva became normal. Splints had a promising and beneficial effect on tooth mobility grade 2. FRC is a method with ease applied material, patient comfort, fracture resistance, and biocompatible.

Conclusion: Splinting is recommended as an initial periodontal therapy in tooth mobility treatment, especially in cases of patient discomfort is a major factor.

Keyword: FRC Splint, tooth mobility, periodontal treatment

Imbibition Effects of Hydrocolloid Irreversible Alginate on Soaking and Spraying Using Aloe Vera Juice

Sumantri D1, Maulida C1

ABSTRACT

Introduction: Alginate impression material is the most commonly used in dentistry to get a negative mold of the oral tissues. Alginate impression material has imbibition effect when in contact with the liquid during the disinfection process. The objective of this study is to observe the imbibition effect on alginate impression material soaked and sprayed using Aloe vera juice.

Method: The research method used was laboratory experimental with pretest and posttest. Alginate was molded by using a mold with the size of 28 mm in diameter and 18 mm high. The results of molding alginate were soaked and sprayed using Aloe vera juice 100% for 5 minutes and 10 minutes. Calculation of imbibition was performed by weighing using digital scales. The normality tested by Shapiro-Wilk and the data were analyzed by Mann-Whitney.

Result: The results showed that there were imbibition effects on alginate molding soaked and sprayed for 5 minutes and 10 minutes; the test indicated that there were significant differences (p < 0.05) between 10 minutes and 5 minutes soaking. Meanwhile, between 5 minutes and 10 minutes spraying, it was showed no significant difference (p > 0.05).

Conclusion: This study concludes that it occurs the smallest imbibition effect on a spraying treatment using Aloe vera 100% for 5 minutes.

Keyword: imbibition, Aloe vera, alginate
Effect of Combination of Surface Pretreatment and Light Initiation Time on Microleakage RMGIC Restoration

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ABSTRACT

Introduction: Microleakage of RMGIC may occur because smear layer may interfere the adhesion mechanism. Surface pretreatment to remove smear layer has been suggested. Previous study revealed that delayed light initiation of RMGIC may reduce microleakage. This study evaluated the effect of combination surface pretreatment (dentin conditioner and acid-etch) and delayed light initiation on microleakage RMGIC restoration.

Method: Class V cavities were prepared on 32 maxillary premolar which have fulfilled inclusion criteria and randomly divided into four groups. Cavities were pretreated with dentin conditioner (group I and II) and acid-etch (groups III and IV). All cavities were restored with RMGIC and immediate light initiation (group I and III), delayed light initiation for 3 minutes (group II and IV). All specimens were thermocycled and immersed in Rhodamine-B 2% dye solution for 24 hours at 37°C. Specimens were sectioned parallel to the axis of the tooth, and the extent of Rhodamine-B dye penetration was examined under an USB Digital Microscope. Data were analyzed using two-way ANOVA and T test for pairwise comparison.

Result: Statistical analysis revealed significant differences between time initiation group (3 minutes and 0 minutes). T test results showed significant difference between groups I and IV and Group III and IV.

Conclusion: This study showed that there is no effect of the combination surface pretreatment and delayed light initiation on microleakage RMGIC restoration.

Keyword: light initiation, microleakage, RMGIC, surface pretreatment, etch, dentin conditioner

Tooth Loss, Bad Habits and Temporomandibular Disorders

Yuniar R¹, Umniyati H³, Rintoko B¹

ABSTRACT

Introduction: Temporomandibular disorder (TMD) is one of oral health problems that has recently attracted a lot of attention. The cause of TMD is multifactorial, which is one of them is the balance of occlusion. The purpose of this study was to see the relationship of TMD with tooth loss as well as other factors such as bad habits and demographic factors.

Method: A cross sectional study was conducted among YARSU University administrative Staff to find out the TMD abnormalities by using a Fonesta’s questionnaire and clinical examination.

Result: The result found no significant association between tooth loss and TMD from interviews and clinical examination, but the increased incidence of temporomandibular disorders is parallel with the increased number of tooth loss. There was a significant association between temporomandibular disorders and bad habits as well as recent education based on questionnaires.

Conclusion: There was a significant association between temporomandibular and sex disorders based on clinical examination.

Keyword: Tooth loss, Temporomandibular disorder, Bad Habits
Impact of Tooth Loss on Quality of Life of Elderly in Posbindu Bojongnangka Tangerang District

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ABSTRACT

**Introduction:** Oral health can affect quality of life. Tooth loss, as oral health problem in elderly, is mainly caused by caries and periodontal disease. This study was aimed to determine the effect of tooth loss on the quality of life among elderly.

**Method:** Study design using cross sectional design. This research took place at 5 Posbindu at Bojongnangka, Tangerang District, with total sample of 93 people, selected through purposive sampling. The questionnaire used for assessing quality of life was OHIP-14. T-test was used to analyze associations.

**Result:** All samples were ≥ 50 years old. Numbers of teeth loss were varied from 1 to 28 teeth with mean ± SD: 11.24 ± 7.4. Anterior tooth lost varied from 0 to 12 with mean ± SD: 2,72 ± 3,47, while posterior tooth lost were from 1 to 14 teeth with mean ± SD: 8,52 ± 4,46. There was 51.6% of elderly having good quality of life. Mean score OHIP for age≥60 years was 13.06, while for age<60 years was 6. The difference was significant (p = 0.0005). Mean OHIP score of elderly missing >1 of anterior teeth was different with those did not miss any or lost only one tooth (p=0.006). Elderly missing >9 posterior teeth had higher mean score of OHIP than those missing ≤ 9 (p=0.019). There were no mean differences of OHIP score according to categories of sex and education (p> 0.05).

**Conclusion:** We concluded that tooth loss was an important factor of quality of life of the elderly.

**Keyword:** Elderly, Quality of life and Tooth lost

Leaflet and Pocket Book as Education Tool to Change Level of Dental Health Knowledge

Mona D¹, Azalea FW¹

ABSTRACT

**Introduction:** Dental caries is a dental problem that often arises in children. One of the factor that affect higher oral health problem is behavioral factor associated with its children knowledge about oral health, so it is important to educate children to increase their knowledge that will change their behavior in a positive direction. The purpose of this study is to determine the differential effect of dental health education with leaflet and pocketbook in third-grade students.

**Method:** The method that used in this study is non - equivalent control group design. Samples were taken using quota sampling technique. Total samples are 40 children, 20 children of SDN 17 and 20 children of SDN 20. Both group were given pre-test and then at SDN 17 given education with media leaflet and at SDN 20 class with pocketbook. Post-test done on day seven after giving education. This study used T dependent test and T independent test.

**Result:** Statistical analysis show increasing knowledge significantly, the value before and after the given education used leaflet and pocketbook with significant value of 0.000 (p<0.05). There is different between both media in increasing knowledge, with significant value of 0.003 (p>0.05). Leaflet show an increase of knowledge is greater than the use a pocketbook.

**Conclusion:** Leaflet is an effective media to increase oral knowledge of dental health.

**Keyword:** leaflet, pocketbook, increase of knowledge
Diastema Closure Using Silicone Guide with Nanofiller Composite

Djuanda R¹, Azhari F¹

Introduction: Central diastema is an esthetic problem that can occur in anterior teeth. Treatment of central diastema can be done by direct composite restoration. The use of silicone guides is helpful in determining the proximal limits by the treatment plan. Nanofiller composite resin can provide a smooth surface and esthetic restoration.

Case: A 24 years old woman came to the clinic with complaints of a gap in the front teeth that is considered very disturbing appearance. She wants to fix her teeth because she feels bad when smiling. Clinically seen diastema between tooth 11 and 21 with no caries and vital. The other teeth have a normal shape, and there are no gap between the teeth. The gingival tissues around the tooth in normal appearance and good oral hygiene and normal frenulum. Treatment plan to be performed is diastema closure using direct composite restorations. Diastema closure using a silicone guide can provide precision results according to analysis, both on the palatal anatomy, labial, and midline teeth.

Conclusion: The use of nanofiller composite resin for diastema closure can provide advantages of both strength and maximum polishing results.

Keyword: Diastema, Silicone guide, Nanofiller composite

Correlation Toothbrush Techniques with The Occurrence of Gingival Recession on FKG USU Students

Amalia M¹, Siregar RS¹

Introduction: Toothbrushing technique performed in a less precise way can lead to exposure of the tooth root surface due to the displacement of the apical margin of the gingiva from the enamel to cementoenamel junction known as gingival recession. Subjects with gingival recession often complain of aesthetic problems especially when recession is present in anterior teeth and dentine hypersensitivity. This study aims to analyze the influence of toothbrushing technique with the occurrence of gingival recession in Faculty of Dentistry Universitas Sumatera Utara students.

Method: Study design using descriptive analytics with retrospective study design, and sample determination is done by purposive sampling. This research was conducted at Installation Periodontia FKG USU with the number of samples of 65 people selected according to inclusion and exclusion criteria. Data analysis was done by using Chi-Square test.

Result: In this study there was a significant relationship (p<0.025) between toothbrushing techniques, i.e. duration, frequency, type and method of toothbrushing with the occurrence of gingival recession.

Conclusion: There was a significant relationship between the duration of toothbrushing, the frequency of toothbrushing, the method of toothbrushing and the type of toothbrush with the occurrence of a gingival recession.

Keyword: Aesthetics, Gingival recession, Toothbrushing technique, Oral hygiene
Vestibular Incision Subperiosteal Tunnel Access (VISTA) with Acellular Dermal Matrix for Multiple Gingiva Recession Management

Ramadhany EP¹, Murdiastuti K¹

ABSTRACT

Introduction: Gingival recession is clinically manifested by an apical displacement of the gingival tissues, leading to root surface exposure. It is a concern for both patients and clinician for several reasons such as root hypersensitivity, erosion, root caries, and esthetics. Recently, new techniques have been suggested for the surgical treatment of multiple adjacent recession-type defects. This case report describes the use of the vestibular incision subperiosteal tunnel access (VISTA) technique in combination with acellular dermal matrix membrane (ADMA) for treatment of multiple gingival recession.

Case: A 52-year-old male patient came to Prof. Soedomo dental hospital with multiple gingival recession because traumatic tooth brushing and thin gingival biotype. Intraoral examination showed 2 mm to 3 mm recession with adequate keratinized gingiva. VISTA technique performed by tunneling gingiva without releasing interdental papilla. Vertical incision made beyond mucogingival junction to releasing flap tension. ADMA membrane was pre-sutured and inserted inside the subperiosteal and allowed coronal repositioning of the gingival margin, which was then stabilized by the continuous sling suturing technique. The vertical incision was sutured and periodontal dressing was applied. Patients were kept under observation for five months. Intraoral examination in 5 months follow-up showed partial and full coverage in recession. Scar formation was not founded.

Conclusion: This combination of ADMA and VISTA technique allows clinicians to successfully treat multiple gingival recession defects.

Keyword: VISTA, tunnel technique, sutures, ADMA, wound healing

Effectiveness of Red Betel Leaf Extract (Piper crocatum) Against Periodontal Pathogens

Herryawan¹, Sabirin IPR¹

ABSTRACT

Introduction: Red betel (Piper crocatum) is one of the herbs that has been known to have antibacterial effect as containing several useful compounds such as essential oils, alkaloids, flavonoids, and tannins. This research was conducted to know antibacterial effect and the effectivity of red betel leaf extract based on in-vitro test to Aggregatibacter actinomycetemcomitans (Aa) and Porphyromonas gingivalis (Pg) bacteria which is a periodontal pathogens.

Method: This research had used disc diffusion method that have sensitivity Kirby-Bauer test with eight-time restating and four treatment were consisted of 10% DMSO as negative control also red betel leaf extract of 2.5%, 5% and 10% concentrations. The sterile disc paper is immersed in 10% DMSO and red betel leaf extract at each concentration, then evaporated in an incubator until dry. The dry disc paper is placed in an inoculated Nutrient Agar (NA) medium then incubated at 37°C for 24 hours.

Result: The results showed that the red betel leaf extract of 2.5%, 5% and 10% concentrations proved to inhibit the growth of Aa and Pg bacteria with a concentration of 10% resulting in the largest inhibition zone for each bacteria.

Conclusion: Red betel leaf could act as a potential antimicrobial agent.

Keyword: Red betel leaf extract, Aggregatibacter actinomycetemcomitans, Porphyromonas gingivalis
The Effectiveness of Black Tea Mouthwash in Reducing Plaque Accumulation in Children Aged 7-8 Years Old

Prihastari L1, Setianingtyas P1, Wardhani N1

ABSTRACT

Introduction: Black tea (Camellia sinensis) is the type of tea that Indonesian usually consume. It contains substances which prevent dental caries and oral disease by obstructing plaque formation. This study aimed to compare the efficacy of the mouthwash containing 2% black tea and fluoro solution in reducing plaque accumulation.

Method: A Randomized Controlled Clinical Trials design and double-blind method was conducted by enrolling 28 students of first-grade students of 012 Pagi elementary schools, Sumur Batu, who were chosen based on simple random sampling. Plaque index measured using Loe's and Silness's index.

Result: There was a significant decrease in plaque index in both groups at 4 weeks (p= 0.002 and p = 0.004; α < 0.05) using Two Way ANOVA and there was no statistically significant difference plaque index between black tea group compared to fluoro using Independent T-test (p= 0.441; > α 0.05).

Conclusion: Black tea mouthwash is equally effective in reducing plaque accumulation to fluoro.

Keyword: Dental plaque, mouthwash, plaque index, steeping black tea

The Correlation between Snacking, Tooth Brushing Habit, Dental Visits with Caries Incidence in Seventh Grade Students

Cahyadi PE1, Handoko SA1, Utami NWA1

ABSTRACT

Introduction: Dental caries is the most prevalent oral disease in Indonesia that could occur in all age groups. According to the WHO, about 60 - 90% school children worldwide have dental caries. This study aimed to analyze the correlation between snacking (consumption of snacks or sweetened drink), tooth brushing habit and dental visit with caries incidence.

Methods: A cross-sectional analytical study was conducted using 102 of seventh grade Santo Yoseph junior high school students. The samples were selected using purposive random sampling. The data was analyzed by a univariate and chi-square bivariate method.

Result: The prevalence of caries observed in the samples was 52.0%. The correlation between tooth brushing habit and caries incidence was found significant (p= 0.000, OR= 7.442; CI 95% = 2.711 – 20.429) while consumption of snacks or sweetened drink (p= 0.256; OR= 1.582; CI 95%= 0.716 – 3.501) and dental visit (p=0.903; OR= 1.502; CI 95%= 0.466 – 2.372) were not statistically significant.

Conclusion: Tooth brushing habit was concluded as the most significant factor in dental caries incidence. It is recommended for school to educate the student about how to brush teeth properly in collaboration with the primary health care centers.

Keyword: caries, snacks, sweetened drink, tooth brushing habit, dental visit
The Correlation Between Level of Knowledge, Attitudes and Dental Health Behavior to Caries Incidences

Yasa SAKPK\textsuperscript{1}, Handoko SA\textsuperscript{1}, Utami NWA\textsuperscript{1}

ABSTRACT

Introduction: Dental caries frequently found, especially in primary school children. Rising incidence of caries shows the lack of awareness of oral health. This study was conducted to determine the relationship between the level of knowledge, attitudes, and behavior of oral health towards incidence of caries in students aged 9-12 years old in SD Negeri 1 Baturiti, Tabanan.

Methods: The method used in this study was observational analytic with cross-sectional study design. Total sampling was conducted on 107 students who had met the inclusion criteria and did not meet the exclusion criteria. The data were analyzed using chi-square test and served as descriptive data with the univariate and bivariate analysis.

Result: According to the data analysis, the result showed a significant relationship between knowledge and dental care behavior by DMF-T (p = 0.032) for the category of knowledge and (p = 0.031) for behavior category, while in DMF-T category with dental care behavior showed no significant relationship.

Conclusion: This study concluded that there is a significant relationship between knowledge and oral health behavior with the incidence of dental caries. Early dental education for children is essential to support their understanding, attitudes, and behavior of dental health of children.

Keyword: caries, knowledge, attitude and behavior, children aged 9-12 years old

Determinants of Oral Hygiene Behavior in 12 Years Old Children in Puskesmas I Baturiti

Wulandari NNF\textsuperscript{1}, Handoko SA\textsuperscript{1}, Kurniati DPY\textsuperscript{1}

ABSTRACT

Introduction: Dental and oral health is a fundamental part of general health and affects the overall well-being. Experts agree that dental and oral diseases are “behavioral diseases” or diseases related to behavior. Factors that affect the behavior of dental and oral health care is still unknown, which leads to research that involved 12 years old children in Puskesmas I Baturiti, Tabanan, to see the most affect the determinants to the behavior of oral hygiene.

Method: The research is cross sectional analytic on 12 years old children in the working area of Puskesmas I Baturiti, Tabanan.

Result: The study shows that correlation between gender with oral hygiene behavior on children age 12 years old, based on gender, was $p = 0.238$, while if based on the knowledge, the result was $p = 0.007$. The result also showed that based on attitude, $p = 0.033$, and when based on the source of information, $p = 0.000$. Lastly, the results based on parental support and teacher support were $p = 0.028$, and $p = 0.009$. There was no correlation between gender and behavior of treatment of dental and oral health. However, there was a significant correlation between knowledge, attitude, the source of information, parental and teacher supports with treatment behavior of oral hygiene in children.

Conclusion: Source of Information is the dominant factor that affects the behavior of oral hygiene in children age 12 years old in Puskesmas I Baturiti, Tabanan, with significant $p$-value $0.015 < 0.05$ and with the highest OR 7.412 (95% CI: 1.476-37.214).

Keyword: oral hygiene behavior, resources, children age 12 years old
Correlation Between Knowledge and Behavior with Oral Hygiene Among Dental Student of Udayana University

Astini NWRS¹, Susanti DNA¹, Handoko SA¹

ABSTRACT

Introduction: Oral hygiene is an essential determinant for health, since it may affect various critical functions, such as speech, mastication, and aesthetic function. Dental students, in particular, should be able to apply the knowledge and behavior of maintaining their healthy teeth and mouth. The purpose of this study was to determine the correlation between education and behavior of keeping dental health with the oral hygiene of Dental Student at Medical Faculty of Udayana University.

Methods: Research method was analytical observational using cross sectional design. The subject was selected by total sampling method on Dental Student at Medical Faculty of Udayana University. Thus 100 students were selected through inclusion and exclusion criteria. This research was conducted by giving questionnaire covering questions about knowledge and behavior and Oral Hygiene Index Simplified (OHI-S) was used as examination tool and as an indicator in assessing oral hygiene.

Result: Significance correlation was documented for the relationship between knowledge and oral health using Chi-square test (p 0.026) and similar result also documented between oral hygiene and behavior of maintaining oral hygiene (p 0.006).

Conclusion: From those results in this study, could be concluded that there is a correlation between knowledge and behavior of maintaining dental health with oral hygiene on Dental Student at Medical Faculty of Udayana University.

Keyword: Knowledge, behavior, oral hygiene.

Profile of Knowledge, Perception and Behavior of Toothpaste Choice in Dental Students of Udayana University

Rahma VL¹, Handoko SA¹, Septiarini NW¹

ABSTRACT

Introduction: Dentistry student is a student who is studying about the disease and should be able to give education on prevention and treatment of the oral cavity. Education provided not only the right way of brushing your teeth, the selection of the toothpaste are also formed from the knowledge, perception, and behavior of students of dentistry, every student should have the experience, perception, and behavior of the selection of a proper toothpaste because it will be spearheading the promotion of dental health community. This study aimed to determine the profile of knowledge, perception, and behavior of toothpaste choice in Dental students of Udayana University.

Method: This study is an observational study with a descriptive cross-sectional design. Data were obtained through questionnaires. The analysis of the data from this study is the analysis of univariate.

Result: The results showed that 90.7% of students received knowledge regarding toothpaste through advertisements. A total of 85.6% students thought that dental students must be selective in choosing toothpaste as part of becoming a future dentist. A total 80.4% the factors that most influence the behavior of toothpaste choice according to the students is the condition or problem of teeth that they experienced. Individual knowledge is correlated with their perception and behavior of toothpaste choice. It is proved by higher understanding in individuals will cause a higher probability of choosing the appropriate toothpaste.

Conclusion: In general, the knowledge of Dental students of Udayana University regarding toothpaste choice is in accordance with the main reason of toothpaste choice.

Keyword: Knowledge, perception, behavior, toothpaste, students
Management of Complex Odontoma Associated with Unerupted Permanent Incisor – A Case Report

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ABSTRACT

Introduction: Odontomas are the most common type of odontogenic tumors, generally asymptomatic, and it frequently may interfere with the eruption of the teeth. Case: A case of a complex odontoma in a 10-year-old boy, which interfere the eruption of the permanent upper central incisor, while the contralateral tooth had almost entirely erupted. Panoramic x-ray shows a calcified mass at the distoincisal aspect of impacted permanent upper left central incisor. Some denticles from the mass were enucleated through a conservative oral surgery and diagnosed as complex odontoma. Management of the affected tooth was done with fixed orthodontic appliances to help its eruption phase and correct the alignment for around one year and four months. Conclusion: This report indicates that early diagnosis and treatment would ensure better prognosis.

Keyword: complex odontoma, odontogenic tumor, unerupted incisor

Management of Bilateral Cleft Lips and Palate with Orthodontic and Prosthodontic Treatment – A Case Report

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ABSTRACT

Introduction: Functional and esthetic are the essential points that should be considered when treating patients with cleft lip and palate. Therefore, comprehensive treatment of these patient requires an interdisciplinary approach to the expected outcomes. Due to lack of medical services in developing countries and awareness among the patients, finding an adult with incomplete treatment of cleft lip and palate is very common. Case: This study was a case report about a successful orthodontic treatment of a bilateral cleft lip and palate patient by using a combination of orthodontic treatment, bone grafting, and subsequent prosthodontic rehabilitation. His foreign funder accompanied a 19-year-old male with bilateral cleft lip and palate came to Sanglah Hospital Denpasar Bali with a chief complaint of the unesthetic appearance of his front teeth. His clinical evaluation showed class II molar relationship, retroclined maxillary central incisors, 0.5 mm overjet, 7 mm overbite, crossbite left second premolar, maxillary and mandibular crowding, congenitally missing maxillary right and left lateral incisors and bilateral ectopic maxillary canine. He also had two anomaly teeth on the palatal region. The treatment plan included the extraction of two anomaly teeth and two lower first premolars. Prosthodontic rehabilitation was done after orthodontic treatment and bone grafting. Conclusion: At the end of the interdisciplinary treatment phase, a functional occlusion, a harmonious profile, and patient satisfaction were achieved.

Keyword: adult bilateral cleft lips and palate, orthodontic treatment, congenital
Ergonomy Physical Training to Reduce Viscosity and Increase pH Saliva Elderly in Tabanan Bali

Sudirman PL¹, Adiatmika IPG¹

ABSTRACT

Introduction: During the geriatric phase, the physiological function of the body will undergo degeneration processes, such as decreasing of bodily cell function, including mucosa of the oral cavity, and salivary gland cells. Physical training health promotion implemented is a planned program which expected to elevate the passion of senior citizen to mend their psychological and physical life quality. This study aims to investigate the effect of twice a week physical training health promotion to improve oral health by decreasing viscosity and increasing pH of the saliva.

Methods: This research was conducted in Tabanan, Bali, from March to September 2015, using pre and post group research design. The samples were 34 people aged 60-86 years old. Before the intervention, subjects were instructed to collect saliva sample into container pot without any stimulation, viscometer was used to measure the salivary viscosity, and the pH meter (Eutech) was used to measure salivary pH. The same examinations were held three months and six months after regular physical training. Data analysis was performed using Wilcoxon test with p=0,05.

Results: Result of this study shows a significant decrease of saliva viscosity before and after treatment, from 12.9±3.2 centipoise to 11.5±2.6 centipoise following three months of treatment and 8.7±2.2 centipoise after six months of treatment (p<0,05). Mean salivary pH increased from 5.6±0.3 prior treatment to 6.0±0.5 after three months of treatment, and 6.5±0.6 after six months of treatment (p<0,05).

Conclusion: Health promotion through physical training based on ergonomy can reduce viscosity and increase pH saliva elderly in Jegu Village Tabanan.

Keyword: Physical training, salivary viscosity, saliva pH

Intracoronal Bleaching of The Endodontically Treated Tooth: A Case Report

Giri PRK¹

ABSTRACT

Introduction: The dental esthetic treatment such as bleaching of discolored endodontically treated teeth has become famous. The materials that mostly applied for such cases are composed of 30%-35% hydrogen peroxide and sodium perborate either in combination or separately.

Case: This study aimed to report a case of a discolored upper left central incisor on a 16-year-old boy. Endodontic treatment was carried successfully and the tooth was bleached with 35% hydrogen peroxide gel (Opalescence) along with the use of glass ionomer cement as the mechanical barrier to the root canal. The post-treatment evaluation was conducted to observe the possibility of recurrent discoloration and the radiographic finding showed there was no evidence of cervical or apical resorption during the whole treatment phase.

Conclusion: Through a case report, this article provides dental practitioners with guidance about the available options for bleaching discolored endodontically treated teeth.

Keyword: bleaching, discoloration, endodontic treatment

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The Effects of *Areca catechu* to The Presence of *Candida Albicans* on Heat- Cured Acrylic Resin

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**ABSTRACT**

**Introduction:** Removable acrylic denture cleaning is very important in preventing denture stomatitis. Denture stomatitis causes plaques and microorganisms particularly *Candida albicans* to adhere to the acrylic denture base. The prevention of denture stomatitis is by maintaining the denture to be clean and preventing the mouth and denture from contamination of *Candida albicans*, such as submerging the denture into denture cleanser. The aim of this research is to determine the effectiveness of the extracts of *Areca catechu* L. as denture cleanser towards the presence of *Candida albicans* on acrylic resin denture base.

**Method:** A heat-cured acrylic resin plate of 10x10x1mm in diameter was immersed in 20% solution containing the extracts of *Areca catechu* L. for 8 hours.

**Result:** The result of this study was that submerging the heat-cured acrylic resin in the extracts of *Areca catechu* L. solution at the concentration of 20% for 8 hours, the number of colonies of *Candida* decreased in number from 19,300.00 CFU/ml to 3,386.67 CFU/ml.

**Conclusion:** This result suggested that *Areca Catechu* L. is effective in decreasing the number of colonies of *Candida albicans*.

**Keyword:** complex odontoma, odontogenic tumor, unerupted incisor

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The Effect of Tuak Beverage to Transverse Strength of Denture Base Heat Cured Acrylic Resin

Wirayuni KA¹

**ABSTRACT**

**Introduction:** The heat cured resin acrylic is a material widely used for removable denture bases. It caused by aesthetic properties and costs are relatively low, but has weaknesses, such as, brittle and can absorb mouth fluid. Tuak is a traditional drink containing alcohol and has an acidic pH. Consumption of alcoholic beverages and acids can affect the strength of the acrylic resin through the diffusion process. This research was conducted to determine the effect of the immersion with tuak beverages toward transverse strength of denture base heat cured resin acrylic.

**Method:** This research is laboratory experimental research with post-test only control group design research and using 24 pieces acrylic-plate sample with size 65 × 10 × 2.5 mm. The sample was divided into 4 groups, 2 immersion groups with tuak beverages within 30 minutes time for 7 and 14 days, 2 immersion control group with artificial saliva solution for 7 and 14 with 37°C. Transverse strength is measured using universal testing machine. The statistical test used is one way ANOVA test with significance value 0.05.

**Result:** The results showed that the transverse altered transverse acrylic resin was not significant (p> 0.05) after soaking with tuak drink for 7 and 14 days.

**Conclusion:** It can be concluded that the tuak beverages did not decrease the transverse strength of the denture base heat cured resin acrylic.

**Keyword:** acrylic resin, tuak beverages, transverse power
Comparison of Heat Cured Acrylic Resins Transverse Strength after Immersion in Tuak and Beer

Nugrahini S

ABSTRACT

Introduction: Heat cured acrylic resin is the most commonly used denture base. It has property which can absorb the liquid, such as alcohol. Alcoholic beverages are often consumed by the people, among others: tuak and beer. Tuak has been mixed with raru has an alcohol dose of about 4 to 5%, while beer 4.2%.

Objective: The aim of this study was to compare the transverse strength of heat cured acrylic resin after immersed in tuak or beer, by measure the resistance of objects to fracture. Test was performed to measure the maximum load that can be received.

Method: This research was post-test only control group design. Total of 32 samples were used to heat cured acrylic resin plates size of 65x10x2.5 mm, 16 samples were immersed in tuak and 16 samples were immersed in beer. Each sample was immersed 30 minutes for 14 days. After immersion, transverse strength of each sample was tested and analyzed by independent T-test to know the differences between groups.

Result: The mean of transverse strength of group immersed in tuak was 109.69 N/mm² and the mean of transverse strength in beer group immersed was 99 N/mm². Alcoholic beverages consumed by denture users cause the plasticization effect of the material through the diffusion process and cause crazing of the acrylic resin so that the acrylic resin is easily fractured.

Conclusion: It could be concluded that there is significant difference in transverse strength of heat cured acrylic resin immersed in tuak compared with beer (P = 0.001).

Keyword: Tuak, beer, transverse strength

The Effect of Storage Temperature on Depth of Cure and Compressive Strength of Composite Resin

Harahap KI

ABSTRACT

Introduction: Temperature plays an important role in polymerization process of composite resin. Depth of cure is often used as a marker of polymerization adequacy in composite resins. Adequate polymerization will increase the mechanical properties of composite resin. The aim of this study was to evaluate the effect of storage temperature on depth of cure and compressive strength of composite resin.

Method: Samples were made from Nano filler composite resin (Filtek Z350 XT, 3M, ESPE, USA) which were stored at 4°C and 24°C for two weeks. Twenty samples of nanofiller composite resins were prepared using metal mould with 6 mm in diameter and 4 mm thickness. Samples were cured under visible blue light for 20 seconds. The polymerized composite resin was measured for determining the depth of cure. Compressive strength of samples was tested by using Universal Testing Machine. The data were analyzed by t-test independent (p<0.05).

Result: The results showed that depth of cure value of 24°C (3.90±0.07 mm) was higher than 4°C (3.83±0.17 mm) and compressive strength of 24°C (35.20±4.63 MPa) was higher than 4°C (26.47±3.13 MPa). No significant difference was found in depth of cure between test groups and control groups (p>0.05). But there was significant difference was found in compressive strength between test groups (p<0.05).

Conclusion: The conclusion is storage temperature can affect the depth of cure and compressive strength of composite resin, although no significant difference on the depth of cure.

Keyword: Storage temperature, depth of cure, compressive strength, composite resin
Management of Dentoalveolar Fracture due to Trauma with Mobility (Case Report)

Firstyananda W

ABSTRACT

Introduction: Adult dentoalveolar fracture most often occurs in the context of daily activities and traffic accidents. Coronal fractures are the most common type of lesion, followed by mobility of tooth. Case: A 67-years-old woman came to the Emergency Department with blood coming out of her mouth because her lips hit the floor. History of nausea (-), vomiting (-), hemorrhage of ear and nose (-). E.O: Asymmetrical face, hematoma at lower right orbital rim, nasolabial and chin region. Edema and hematoma at upper and lower lips. I.O: Generalized hyperemia gingiva. Diagnosis is dentoalveolar fracture on 12, 22 with fracture 1/3 incisal teeth 11, 21, 22 accompanied by mobility grade 2° on teeth 12, 11. First treatment was wound debridement, splinting with composite wiring, and selective grinding. Plan to perform panoramic x-ray, antibiotics and analgesics. Post treatment instructions were oral hygiene instruction, soft diet, radices removal, and return for splinting control. The result was good as the healing process of soft and hard tissue was good. Conclusion: Composite wiring was very common and easy fixation technique for dentoalveolar fractures. Easy material and techniques made this composite wiring as a good choice of treatment for simple dentoalveolar fracture.

Keyword: dentoalveolar fracture, mobility teeth, splinting

Aloe vera Extract Increase Fibroblast Cells in The Healing Process of Cavia cobaya Incised Wound

Dewi PS

ABSTRACT

Introduction: Surgical procedure done with incision could result the tissue damage and stimulating the healing process. Healing process is dynamic and consists of several phases; inflammation, proliferation, and maturation. Fibroblast cell started to flourish the proliferation phase. One of the herbal plants that play an important role in healing process is Aloe vera. The nutrition of Aloe vera helped the cells regeneration process, which can be used as anti-bacterial, anti-fungus, and anti-inflammation. The aim of this research is to identify the effectiveness of Aloe vera extract to the number of fibroblast cell in the incised healing process of Cavia cobaya. Method: This research conducted on 9 adult male Cavia cobaya. Two incised wounds were made vertically in the back of each Cavia cobaya. The first incised wound was treated with 75% Aloe vera extract and used as test group. The second wound was treated with distilled water as control group. The treatment was given for 4 days and on the fifth day all subjects were decapitated and were undergone histology examination to count the number of fibroblast cell. The whole process was then analyzed by independent t-test. Result: There was significant difference in the number of fibroblast cell of test group and control group (sig <0.05). Conclusion: It can be concluded that 75% of Aloe vera extract can increase the number of fibroblast cell in the healing process of Cavia cobaya incised wound.

Keyword: incised wound, wound healing, Aloe vera, fibroblast cells
The Utilization of Red Sweet Potato Leaf Extract to Effectively Inhibit *Staphylococcus aureus*

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**ABSTRACT**

**Introduction:** Periodontal abscess is the disease that cause damage to periodontium compared to periodontitis. *Staphylococcus aureus* is one of the most common causes of pyogenic infections such as ulcers, abscesses, impetigo and sticky eyes in neonates. The high incidence of infection and inadequate treatments will result a new problem of antibiotics resistance. Sweet potato leaf is used by people in some areas to treat ulcers because contains chemical compounds of alkaloids, steroids / triterpenoids, flavonoids, and tannins. The purpose of this research was to find out the effectiveness of red sweet potato leaf extract (*Ipomoea Batatas Poir*) in inhibiting *Staphylococcus aureus* bacteria.

**Method:** The method utilized in this research was experimental laboratory post-test only design in vitro with Kirby Bauer antibacterial test at concentration 1%, 2%, 4%, 8% and negative aquadest control and Vancomycin 30μg positive control (BBL 231632).

**Result:** Red sweet potato leaf extract is bacteriostatic and only able to reduce the number of bacterial colonies, resulting in optimum zone of 23.5mm irradical at 8% concentration.

**Conclusion:** The utilization of Red sweet potato leaf (*Ipomoea batatas poir*) extract to inhibit bacteria *Staphylococcus aureus* effectively.

**Keyword:** Red sweet potato leaf extract, *Staphylococcus aureus*

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**Esthetic Crown Lengthening with Ostectomy and Frenotomy for Treatment of Gummy Smile**

Buana AAGBA¹, Murdiastuti K¹

**ABSTRACT**

**Introduction:** A gummy smile is seen usually when gingival exposure more than 3 mm is visible. Esthetic crown lengthening may include a variety of surgical techniques for the gummy smile treatment, all of which aim to improve the esthetic appearance of teeth and gingiva. Crown lengthening is a surgical procedure aimed at removal of periodontal tissue to increase the clinical crown height.

**Case:** A 21-years-old woman was referred to the Prof. Soedomo Dental Hospital. The patient presented a good general health and maxillary anterior teeth with short clinical crowns. No periapical radiolucency at radiographic. Gingival exposure was 6 mm. Preoperative intraoral examinations showed a healthy gingiva, and the clinical crown ratio was about 1:1. At clinical examination, periodontal pocket depth was 3 mm or less, and bone sounding was 3.5 mm or less. After determining the problem, esthetic crown lengthening surgery was performed under local anesthesia. Chu’s aesthetic gauge Ratio used to measure ideal clinical crown ratio allowed gingivectomy. Mucoperiosteal flap raise after incision followed by ostectomy to maintain biological width. Flap was repositioned and sutured with various suture techniques. Frenotomy was performed to release flap tensions; periodontal dressing was applied after frenotomy.

**Conclusion:** Intraoral examination in 3 months follow up showed reduced gingival exposure to 3 mm and ideal clinical crown ratio. The esthetic crown lengthening with ostectomy and frenotomy for treatment of gummy smile was successfully to reduced gummy smile and reach ideal clinical crown ratio.

**Keyword:** Crown Lengthening, Gummy Smile, Gingivectomy, Ostectomy, Frenotomy

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Correlation between Nutritional Statuses with Angular Cheilitis in Children of Suwung, Denpasar

Dewi IK

ABSTRACT

Introduction: A good nutrition is a standard of nutrition status had a balance between amount of energy income and energy out from the body according to individual needs. This is not happened to people who have a malnutrition which is amount of incoming energy much less than individual needs. Malnutrition is a predisposing factors that caused of angular cheilitis especially in children. Angular cheilitis is an infected fissure happened around the mouth, usually surrounded by redness. This lesion caused by a candida and Staphylococcus aureus. The purpose of this study was to explain the correlation between a nutrition status and angular cheilitis in children located in Suwung landfill Denpasar.

Method: The method used in this study is approach to cross sectional study and pearson chi-square statistic analyzed.

Result: This study result showed from 32 subjects of being samples, there were 20 subjects (62.5%) had an angular cheilitis and a mal nutrition with dominated at aged 6 – 7 years old.

Conclusion: According to this research, it can be concluded that children with malnutrition in Suwung landfill Denpasar City has significant relation to the occurrence of angular cheilitis.

Keyword: Angular Cheilitis, Mal Nutrition.

Analysis of Moringa oleifera Extract on Macrophage in Oral Ulcers Healing Process

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ABSTRACT

Introduction: Ulcer is a lesion that involves epithelial damage in the basal membrane. Treatment for ulcers is focused to suppress inflammation, pain and increase healing process. Macrophages will be decreased at the end of the inflammatory phase. Moringa oleifera extract contains substances which can decrease the macrophages and effectively increase the healing process. To determine the effects of Moringa oleifera gel extract to the number of macrophages in the ulcers healing.

Method: This research was experimental post-test only control group design. Total of 30 male wistar rats were injured on oral mucosa using hot burnisher pencil diameter 2 mm. Positive control using aloclair and treatment group using Moringa oleifera gel extract concentration 5%, 2.5%, 1.25% and 0.625%. The oral mucosal were made as histological slide to observe the number of macrophages. It analyzed with Kruskal Wallis and Mann Whitney test.

Result: Moringa oleifera gel extract significantly decrease the number of macrophages in the healing process of ulcers with Kruskal Wallis 0.000 (<0.05). There are significant differences in the average number of macrophages in the healing of ulcers oral mucosa between treatment groups Moringa oleifera extract gel 0.625% with Moringa oleifera gel extract 1.25%; 2.5%; 5%; and aloclair.

Conclusion: Moringa oleifera gel extract concentration 0.625% was effectively in decreasing the number of macrophages on ulcers healing process.

Keyword: ulcers, Moringa oleifera extract gel, macrophages