PRELIMINARY SYNTHESIS OF CALCIUM CARBONATE USING CO2 BUBBLING METHOD FOR BIOMEDICAL APPLICATION
N.H. Azzakiroh¹, Z. Hasratiningsih⁵, I.M. Joni³, A.Cahyanto²

7-11

COMPARISON OF THE DIAMETRAL TENSIILE STRENGTH OF BONE CEMENT BASED ON CARBONATE APATITE BETWEEN MICRON AND NANO PARTICLES CALCIUM CARBONATE AS A PRECURSOR
L. Arianti¹, E. Karlina², A. Cahyanto²

12-16

APATITE CEMENT VERSUS CARBONATE APATITE CEMENT
A. Cahyanto¹*, M.N. Zakaria2

17-23

BIOCERAMICS MATERIAL: LIFTING HOPE IN ENDODONTICS 26
M. N. Zakaria1, A. Cahyanto2 26

24-31

REVIEW ON BIOCERAMIC NANOFIBER USING ELECTROSPINNING METHOD FOR DENTAL APPLICATION 33
N. Djustiana*, Y. Faza, A. Cahyanto 33

MICROLEAKAGE IN COMPOSITE RESTORATION DUE TO THE APPLICATION OF CARBAMIDE PEROXIDE BLEACHING MATERIAL WITH A CONCENTRATION OF 10%, 15% AND 20% 42
Renny Febrida1,a*, Elin Karlina1,b, Oksania Wahyuni Putri2,c 42

32-37

RECONSTRUCTION PROCEDURE USING ELASTOMER PUTTY MATERIALS, WHAT TYPE TO CHOOSE? 49
V. Takarini1, E. Karlina1, R. Febrida1, Z. Hasratiningsih1 49

38-44

EFFECT OF BAGGAGE FIBER (Saccharum officinarum L) ON FLEXURAL STRENGTH OF COMPOSITE RESIN 56
It. Amirah*, M. Hudiyati**, MC. Negara** 56

45-51

THE KNOWLEDGE OF BPJS HEALTH AMONG BANDUNG INFORMAL SECTOR WORKERS AS BPJS HEALTH CARD OWNER
1Agata Ayu Pratiwi, 1Cucu Zubaedah, and 1Sri Susilawati

52-63

ORAL HYGIENE INDEX OF QUADRIPLEGIC ATHLETES IN BANDUNG
Mochamad Nur Ramadhani1, Riana Wardani2 and Cucu Zubaedah2

64-72
SEVERITY OF CHILDHOOD CARIES IN PRIMARY SCHOOL 89
Anne Agustina Suwargiani*, Dudi Aripin**, Inne Suherma Sasmita***, Sri Susilawati* 89

THE RELATIONSHIP BETWEEN CHILDREN’S MOTIVATION WITH ORTHODONTIC TREATMENT NEED IN STUDENTS AGED 9-12 YEARS OF SDN KEDUNGKANDANG 2 MALANG 95
Trining Widodorini1, Neny Roeswahjuni2, Vira Indah Permatasari D.N3

CUSTOMER TRUST OF OUTPATIENT ON DENTAL AND ORAL CLINIC AT SOME HOSPITALS IN BANDUNG 105
C. Zubaedah1, F.M. Putri1, S. Tjahajawati2, S. Susilawati1, R. Wardani1

VARIOUS ORAL LESIONS DUE TO MICRONUTRIENT DEFICIENCIES
Nanan. Nur’aeny 139

THE DIFFERENCE OF SALIVARY PH AND VISCOSITY AFTER CONSUMING WHITE RICE (Oryza sativa), CILEMBU SWEET POTATO (Ipomoea batatas cultivar Cilembu) AND PURPLE SWEET POTATO
Stefanus Christian1, Sulistyani1, Dwi Prijatmoko1 146

SALIVARY FLOW IN PATIENT WITH TYPE 2 DIABETES MELLITUS BASED ON THE CHARACTERISTICS OF THE SUBJECT 153
Mindy Frieda Anissa1, Rosiliwati Wihardja1, Sri Tjahajawati1 153

SWEET TASTE THRESHOLD ON KRETEK FILTER-SMOKING LABORS 161
Inez Kiantoro, Sri Tjahajawati, Ervin Rizali 161
THE RELATION OF INTERALAR WIDTH TO INTERCANINE DISTANCE AMONG THE RACES OF MALAY, CHINESE AND INDIAN 168
Emma Rachmawati1, Nani Murniati1, Yong Jhia Yim1 168

THE EFFECTIVENESS OF WHITE CAMBODIA FLOWER EXTRACT (Plumeria alba L.) AS A DENTURE CLEANSER TO DECREASE THE NUMBER OF Candida Albicans IN SOFT LINER 153-160
Elizabeth Luna Kania Anindita, Lusi Hidayati, Achmad Gunadi 176

ANTIBACTERIAL EFFECT OF GAMBIR EXTRACT (Uncaria gambir [Roxb.]) TO BACTERIAL COLONIES IN MALE WISTAR STRAIN RATS 185
Rosada Sintya Dwi*, Siti Rusdiana Puspa Dewi*, Intan Ardita* 185

ANTIBACTERIAL ACTIVITY OF GAMBIR EXTRACT (Uncaria gambir [Roxb.]) AS AN ANTI-INFLAMMATORY AGENT IN WISTAR MALE RATS (Rattus norvegicus L.) 194
Ickman Seto, Siti Puspa Dewi, Ulfa Yasmin, Falensia Octaria 194

ANTIBACTERIAL ACTIVITY OF HIBISCUS ROSA-SINENSIS FLOWER EXTRACT AGAINST Fusobacterium nucleatum 201
Wahyu Dwi Putra*, Shanty Chairani*, Mellani Cindera Negara** 201

THE DIFFERENCE IN ANTI-BACTERIAL ACTIVITY BETWEEN BASIL LEAF (Occinium sanctum) ESSENTIAL OIL AND CHLORHEXIDINE GLUCONATE TOWARDS Enterococcus faecalis 209
Fajar Fatriadi, Diani Prisinda, Ame Suciati 209

EVALUATION OF ANTFUNGAL ACTIVITY OF Stichopus hermanii ETHANOL EXTRACT AS ORAL CANDIDIASIS TREATMENT 214
Syamsulina Revianti* and Kristanti Parisihni* 214

THE EFFECT OF COMBINATION Stichopus hermanii AND HYPERBARIC OXYGEN ON OSTEOLAST AND OSTEOCLAST IN PERIODONTAL TISSUE DIABETIC RAT 223
Dian Mulawarmanti 1, Kristanti Parisihni1, Yoifah Rizka Wedarti 195-202

DISTALIZATION OF UPPER MOLAR WITH REMOVABLE APPLIANCE
Deni Sumantri 231
ADJUNCTIVE ORTHODONTIC TREATMENT OF PATIENT WITH PERIODONTAL DISEASE 236
Endah Mardiati 236

ORTHODONTIC PATIENT EXAMINATION AND ANALYSIS IN ORDER TO ESTABLISH THE CORRECT DIAGNOSIS 243
Gita Gayatri1, Mediani Krieka Putri2 243

Management of Class III Skeletal Deformity with Le fort I Osteotomy and Bisagital Split Ramus Osteotomy 253
Indra Hadikrishna*, Abel Tasman**, Seto Adiantoro *** 253

MANAGEMENT OF IMPACTED MAXILLARY CENTRAL INCISOR WITH SURGICAL TRANSPLANTATION 264
Nyoman Ayu Anggayanti1, Melita Sivlyana2, Endang Syamsudin**

A RARE CASE OF AUTOTRANSPLANTATION OF IMPACTED TEETH IN POST ODONTOMA SITES 270
Endang Syamsudin1 Dian Maifara2 270

OROANTRAL FISTULA CLOSURE USING BUCCAL FLAP : A CASE REPORT 277
Teuku Ahmad Arbi, DDS, OMFS 277

TRANSMUCOSAL ATTACHMENT IN DENTAL IMPLANT 283
*Chandra Andi B **Ina Hendiani 283

SEMILUNAR FLAP FOR TREATMENT MILLER'S CLASS I GINGIVAL RECESSION (A CASE REPORT) 292
Caecilia S.W.N1, Ina Hendiani2 292

THE ROLE OF INFLAMMATORY MEDIATORS IN PERIODONTAL DISEASE 300
Nicky Arviana*, Agus Susanto** 300

ALVEOLAR RIDGE AUGMENTATION 311
T.C Rini, I Hendiani 311

ONE VISIT FRENECTOMY AND GINGIVECTOMY 321
Y.Sidarta1, E.L.C. Kumala2 321
CORONALLY ADVANCED FLAP FOR THE TREATMENT OF A SINGLE RECESSION: A TWO-YEAR FOLLOW UP 327
P Metta, I Komara 327

CORRELATION BETWEEN PATIENTS WITH PARTIAL TOOTH LOSS CHARACTERISTICS AND PATIENTS’ MOTIVATION TO USE DENTURES AT RSGM OF JEMBER UNIVERSITY 332
Dewi Kristiana1, R Rahardyan Parnaadjii1, Asti Widaryatii2 332

DESCRIPTION OF THE MAXILLARY RESIDUAL RIDGE MORPHOLOGY BASED ON CLASSIFICATION FOR COMPLETE EDENTULISM 340
M. Andreas1, R. Rikmasari2, A. Adenan2 340

ONE PIECE DENTAL IMPLANTS TREATMENT FOR NARROW EDENTULOUS SPACE REHABILITATION 352
F.Mardiyantoro1, Y.Sidarta2 352

The Radiograph Fourth Molars Mandibular Impaction 361
Hadiyat Miko1, Ernawati2, Emma Kamelia3*, Yayah Sopianah4*, Fahmi Ocludar5 361

Description of Mandible Density in Patients with Type 2 Diabetes Mellitus using Panoramic Radiograph 368
1L Epsilawati, 2H. Polli, 2DD Dian S 3 M.S. Haris 368

COMPATIBILITY MANDIBLE GONIAL ANGLE MEASUREMENT ON DIGITAL LATERAL CEPHALOMETRIC AND PANORAMIC RADIOGRAPHS 377
R.J. Harahap1, B. Sam 2, F. Pramanik2 377

DESCRIPTION THE FORM OF HEAD CONDYLE IN TEMPOROMANDIBULAR JOINT BASED ON GENDER AND AGE ON PANORAMIC RADIOGRAPH 389
S.A Sistia*, B. Sam**, F. Pramanik** 389

Description of Microstructure in Trabecular Jaw Quality for Patient with Smoking Habits Using Panoramic Radiograph 403
1Jing L, 2Epsilawati L, 2Azhari 403
Discription of The Normal Mandibular Alveolar Resorption Pattern Based on Gander Using Panoramic Radiograph 416
1Law SY, 2Epsilawati L, 2Azhari 416

Description of Panoramic Radiograph Failure at RSGM UNPAD 426
Mohd Shuhaimi, M.H1, Ria N Firman2, F. Pramanik2. 426

Description of Corpus Length and Ramus Height of Mandible in Patients with Panoramic Radiograph 438
Siti Nur Aseerah1, Azhari2, Farina Pramanik2 438

Analysis of The Mandible Cortical Bone Height in Amlodipine user Patient Using Panoramic Radiograph 449
1Farihah S, 2Epsilawati L, 2Suhardjo, 2AAG Dananjaya 449

Caries Description in Permanent Teeth Based on Mount and Hume Classification 457
Johana Yaputri 1, Rahmi Alma Farah2, Anna Muryani3 457

DIRECT COMPOSITE RESTORATION WITH STAMP TECHNIQUE 466
Yolanda1 ; Anna Muryani1 466

INTENTIONAL ENDODONTIC IN LEFT MAXILLARY CENTRAL INSISIVUS 474
W. Prabandari1, R. A. Farah2 474

DIRECT Pulp CAPPING WITH MINERAL TRIOXIDEAGGREGATE 413-418
Wijoyo Sastro S1., Irmalyen S2 481

ONE VISIT ENDODONTIC TREATMENT OF MAXILLARY CENTRAL INCISORS 489
Y. Dhamayanti 1, D. Aripin 2 489

NON-SURGERY TREATMENT FOR PERIAPICAL LESION ON TOOTH 21 AND 22 WITH CONVENTIONAL ENDODONTIC TECHNIQUE 499
R. Indiwina1, D. Aripin2 499

CONVENTIONAL ENDODONTIC TREATMENT OF CHRONIC PERIAPICAL LESION ASSOCIATED WITH TRAUMATIZED LEFT MAXILLARY INCISORS 507
S. Yumanta1, h. D. Adhita2 507
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANAGEMENT PULP NECROSIS WITH OPEN APEX USING APICAL PLUG MINERAL TRIOXIDE AGGREGATE</td>
<td>443-448</td>
</tr>
<tr>
<td>E. A. Sapuherni1, H. D. Adhita Dharsono2</td>
<td>514</td>
</tr>
<tr>
<td>HEALING OF PERiapICAL LESION USING CALCium HYDROXIDE IN NONSurgical ENDodontic TREATMENT</td>
<td>449-455</td>
</tr>
<tr>
<td>Nuni. Maharani1, Anna. Muryani2</td>
<td>522</td>
</tr>
<tr>
<td>NONSurgical ENDodontic RETREATMENT ON LEFT MAXILLARY SECOND PREmolar WITH UNDERFILLED OBTURATION.</td>
<td>456-463</td>
</tr>
<tr>
<td>Ika Destina1, Diani Prisinda2</td>
<td>531</td>
</tr>
<tr>
<td>MANAGEMENT OF SEPARATED ENDodontic INSTRUMENT DURING ROOT CANAL TREATMENT WITH BYPASS TECHNIQUE</td>
<td>464-470</td>
</tr>
<tr>
<td>Nana Nurjanah1, H.D.A Dharsono2</td>
<td>538</td>
</tr>
<tr>
<td>MANAGEMENT OF MAXILLARY FIRST PREmolar WITH THREE ROOT CANALS: A CASE REPORT</td>
<td>471-477</td>
</tr>
<tr>
<td>Zuleika1, H.D.A Dharsono2</td>
<td>546</td>
</tr>
<tr>
<td>NON-SURGICAL ROOT CANAL RETREATMENT ON THE MAXILLARY LEFT SECOND PREmolar</td>
<td>478-487</td>
</tr>
<tr>
<td>Anna Muryani1, Irma Len Satifil1</td>
<td>557</td>
</tr>
<tr>
<td>INTRA CORONAL BLEACHING ON UPPER LEFT CENTRAL INCISOR TOOTH (CASE REPORT)</td>
<td>488-494</td>
</tr>
<tr>
<td>Diani Prisinda</td>
<td>565</td>
</tr>
<tr>
<td>EFFECT OF FLUORIDE APPLICATION BEFORE OR AFTER BLEACHING OF CARBAMID PEROXIDE 35 % ON BLEACHED GUIDE SCORES, HARDNESS, AND ENAMEL BRIGHTNESS</td>
<td>495-500</td>
</tr>
<tr>
<td>Yendriwati1, Rehulina Ginting2, Fitri Yunita Batubar2</td>
<td>573</td>
</tr>
<tr>
<td>THE EFFECTIVENESS OF PARACHLOROPHENOL CAMPHOR MENTHOL AGAINST ORAL Candida albicans</td>
<td>501-510</td>
</tr>
<tr>
<td>1Ayu Trisna Hayati, 2Emma Rachmawati, 2Ame Suciati</td>
<td>585</td>
</tr>
<tr>
<td>DENTAL MANAGEMENT IN CHILDREN WITH LOW BIRTH WEIGHT</td>
<td>511-514</td>
</tr>
<tr>
<td>Williyantri Soewondo1</td>
<td>591</td>
</tr>
</tbody>
</table>
THE PROGRESSION RESEARCH OF ALLIUM SATIVUM IN DENTISTRY 515-522
Eriska Riyanti1, Mieke H Satari2, Meirina Gartika1 601

THE RELATION BETWEEN FREQUENCY OF TOOTHBRUSH REPLACEMENT IN A YEAR AND DENTAL CARIES PREVALENCE OF GRADE IV AND V STUDENTS OF JEMBER KIDUL 04 ELEMENTARY SCHOOL 606
Sulistiyani, Kiswaluyo2, Isna Fauziah Yusuf3 606

THE RELATIONSHIP BETWEEN DENTAL CARIES AND ORAL HYGIENE ON PATIENTS OF THE PEDIATRIC DENTAL CLINIC AT DENTAL HOSPITAL OF JEMBER UNIVERSITY 615
Ahmad Hanif Nugroho, Dyah Setyorini, Sulistiyani 615

HALL TECHNIQUE AS A DENTAL-TREATMENT OPTION, START WITH MINIMAL THEN END UP MAXIMAL 626
L.K. Baringbing1, R. Indriyanti2 626

DENTAL AND ORAL HEALTH PROBLEMS IN CHILDREN AS A PASSIVE SMOKER 636
Santi Wulansari1, Yetty Herdiyati1 636

ANTIMICROBIAL EFFECTS OF CHLORHEXIDINE AGAINST CARIOGENIC BACTERIA OF EARLY CHILDHOOD CARIES: (Literature Study Article) 648
R.Y. Sari1, E. Riyanti2 648

MECHANISM OF ZINC IN ORAL CAVITY FOR REDUCING ENAMEL DEMINERALIZATION (LITERATURE STUDY ARTICLE) 661
Wijaya I C1, Riyanti E2 661

RELATION OF PROPER BREASTFEEDING LATCH ON TO THE DENTOFACIAL STRUCTURE DEVELOPMENT 672
Trieska Annisa1, Eriska Riyanti2 672

DELAYED TOOTH ERUPTION IN CHILDREN: AN UPDATE REVIEW FOR DENTIST (Literature Review) 684
Sri Ratna Laksmiastuti 684
TREATMENT OF INTRUSION IN ANTERIOR TEETH USING ORTHODONTICS PROCEDURE (LITERATURE STUDY ARTICLE) 695
F. I. Dini1, I.S. Sasmita1 695

THE USE OF POLYETHYLENE FIBER IN ANTERIOR PRIMARY TEETH RESTORATION WITH EXTENSIVE DECAY 706
Ulfa Yasmin1, Willyanti Suwondo2 706

A NEW CALCIUM SILICATE-BASED CEMENT (BIODENTINE) USE IN APEXIFICATION TREATMENT (LITERATURE STUDY ARTICLE) 715
Kurniaty, I. S. Sasmita 715

AMELOGENESIS IMPERFECTA EARLY TREATMENT WITH PROGRESSIVE CONSERVATIVE ADHESIVE CONCEPT 724
Stevani Monika, Iwan Ahmad 724

CROWN RESTORATION IS AN APPROPRIATE CHOICE FOR TREATMENT AMELOGENESIS IMPERFECTA CASES 741
Yayah Inayah1, Yetti Herdiyati2 741

PRE-EMINENCE OF GIOMER AS RESTORATION MATERIAL AND CARIES PREVENTION IN CHILDREN: A LITERATURE REVIEW 752
Gunawan I1, Saptarini R2 752

EVALUATION OF APEXIFICATION TREATMENT ON CENTRAL INCISIVE OF YOUNG PERMANENT TOOTH DUE TO TRAUMATIC INJURY: A CASE REPORT 764
Faizal Hasan1, Meirina Gartika2 764

AESTHETIC REHABILITATION AND DENTAL PREVENTIVE OF THE PRIMARY DENTITION AFFECTED BY ENAMEL HYPOPLASIA: CASE REPORT 773
Randita Diani1, Iwan Ahmad M.2 773

EARLY CLASS III MALOCCLUSION TREATMENT USING REVERSE TWIN BLOCK APPLIANCE: A CASE REPORT 787
Sekar Pratiwi1, Ratna Indriyanti2 787

FOLLOW UP ONLAY COMPOSITE ON THE FIRST PERMANENT MOLAR IN CHILDREN: CASE REPORT 798
Mustika Pramidi 1, Willyanti Soewondo2 798
EARLY TREATMENT OF MILD SKELETAL CLASS III MALOCCLUSIONS USING REVERSE TWIN BLOCK: CASE REPORT 809
Dewi Rahmawati1, E. Riyanti2 809

PHASE OF TREATMENT AGNESIS BILATERAL CANINE MANDIBULAR PERMANENT: A CASE REPORT 822
Intan Maulani, Yetty Herdiyati 822

DENTAL TREATMENT IN A DOWN SYNDROME ADOLESCENT BOY PATIENT: A CASE REPORT 833
Stephanie1, Arlette Suzy P.2 833

COMPREHENSIVE TREATMENT SUCH AS: RESTORATIONS, EXTRACTION AND SPACE MAINTAINER IN CHILDREN WITH POOR ORAL CONDITION: A CASE REPORT 843
Nova Elvarani1, Eriska Riyanti2 843

COMPREHENSIVE TREATMENT OF INJURED IMMATURE PERMANENT ANTERIOR TEETH: A CASE REPORT 855
Naninda Berliana Pratidina1, Ratna Indriyanti2 855

FIBER-BRAID REINFORCED COMPOSITE LOOP SPACE MAINTAINER: AN ALTERNATIVE DESIGN AND MATERIAL OF SPACE MAINTAINER
Yoana1, Arlette Suzy Puspa Pertwi2 867

A TREATMENT FOR NON VITAL ANTERIOR IMMATURE PERMANENT TEETH USING PROTAPER MANUAL SYSTEM (HAND USE): A CASE REPORT 877
Rizka A. Zaim1, Meirina Gartika2 877

PATTERN OF CALCULUS FORMATION IN VISUALLY IMPAIRED CHILDREN 887
Didin Erma Indahyani1, Niken Probasari2, Izzata Barid1 887

THE LEVEL OF CARE NEEDS ABNORMALITIES OF TEETH AND PERIODONTAL TISSUES IN CHILDREN WITH SPECIAL NEEDS 896
1Niken Probasari, 2Didin Erma Indahyani, 2Izzata Barid 896
THE RELATIONSHIP BETWEEN DENTAL ANXIETY WITH THE LEVEL OF COOPERATIVE OF PEDIATRIC PATIENTS ON TOOTH EXTRACTION PROCEDURE IN THE EDUCATION HOSPITAL OF BRAWIJAYA UNIVERSITY 906
Merlya Balbeid, Ambar Puspitasari, Etika Ayu Sondang Terawati 906

RELATIONSHIP BETWEEN PERIODONTITIS WITH CONCENTRATION OF C-REACTIVE PROTEIN (CRP) SALIVA IN CHILDREN WITH DOWN SYNDROME CLINICAL DIAGNOSE 916
Henytaria Fajrianti1, Hernayanti2, Fanni Kusuma Djati3 916

PRELIMINARY SYNTHESIS OF CALCIUM CARBONATE USING CO2 BUBBLING METHOD FOR BIOMEDICAL APPLICATION
N.H. Azzakiroh1, Z. Hasratiningsih2, I.M. Joni3, A.Cahyanto2
Pre-Eminence Of Giomer As Restoration Material And Caries Prevention In Children: A Literature Review

Gunawan I, Saptarini R

1 Resident of Department of Pediatric Dentistry, Faculty of Dentistry, Padjajaran University
2 Staff of Department of Pediatric Dentistry, Faculty of Dentistry, Padjajaran University

E-mail: drg.ideliagunawan@gmail.com1, risti.saptarini@fkg.unpad.ac.id2

ABSTRACT

Researchers are still trying to develop the most ideal restorative materials to replace the missing tooth tissue. Glass ionomer cement (GIC) is best known as restorative material that used for caries prevention, with the ability to release high fluoride but has a weakness in the mechanical strength. The latest restoration development to overcome the disadvantages of glass ionomer cement (GIC), known by the name of Giomer. Giomer, a restorative material developed by PRG (Pre-reacted Glass ionomer) technology, combines the advantages of composite and caries prevention capabilities of conventional glass ionomer. Merging of the two materials make giomer as a superior restorative material. This literature review will discuss the advantages and application giomer as a restorative material and prevention of dental caries children through a review of literatures and journals research collected. In conclusion, Giomer, a restorative material that was developed with the latest technology through the reaction of the filler pre-reacted glass ionomer (PRG) is most effective in preventing dental caries because it can increase the remineralization, prevent adhesion of plaque that is appropriate for pediatric patients with a high caries risk.

Keywords: Giomer, Restoration, Caries Prevention, Pre-Reacted Glass Ionomer (PRG)

INTRODUCTION

Dental caries is one of the most common diseases and generally occurs in all countries. Results from the US National Health and Nutrition Examination Survey show that caries is the most common chronic disease in children.1 According to data from World Dental Federation (FDI) the number of dental caries throughout the world, especially in industrialized countries reaches 60% -90% in school age children.2 Data from the National Institute of Dental and Craniofacial Research (NIH) shows the prevalence of dental caries