PROGRAM AND PROCEEDING BOOK

The 3rd ASEAN Plus and Tokushima Joint International Conference

Theme:
"Strategic Achievement of Oral Sciences and Promotion of Quality of Life and Professional Education for Oral Hygienists by Using Information and Communication Technology"

Organized by:

Faculty of Dentistry
Hasanuddin University
Makassar, Indonesia

Faculty of Dentistry
The University of Tokushima
Tokushima, Japan

Venue: Imperial Aryaduta Hotel, Makassar, Indonesia
Date: December 4th-5th, 2014
Program and Proceeding Book

The 3rd ASEAN Plus and Tokushima Joint International Conference on "Strategic Achievement of Oral Sciences and Promotion of Quality of Life and Professional Education for Oral Hygienists by Using Information and Communication Technology"

Organized by

Collaboration,
Faculty of Dentistry The University of Tokushima
Faculty of Dentistry Hasanuddin University

Executive Editors  : Eiji Tanaka, Mansjur Nasir
Editor              : Ardo Sabir
Administrator       : Abdul Majid Saputra
Design & Layout    : Pitter L. Bosh
Program and Proceeding Book

The 3rd ASEAN Plus and Tokushima Joint International Conference on
"Strategic Achievement of Oral Sciences and Promotion of Quality of Life and
Professional Education for Oral Hygienists by Using Information and
Communication Technology"

Organized by

Faculty of Dentistry The University of Tokushima
Faculty of Dentistry Hasanuddin University

Copyright 2014 by Faculty of Dentistry Hasanuddin University, Makassar,
Indonesia

Copyright under the Uniform Copyright Convention. All rights reserved. This book
is protected by copyright. No part of it may be reproduced, stored in a retrieval
system, or transmitted in any form or by any means, electronic, mechanical,
photocopying, recording, or otherwise, without written permission from the
publisher.

Perpustakaan Nasional Republik Indonesia
Katalog Dalam Terbitan (KDT)
ISBN : 978-602-71749-0-0

Faculty of Dentistry Hasanuddin University
Makassar, South Sulawesi, Indonesia

Jl. Perintis Kemerdekaan KM.10 Makassar 90245
Telp : +62 411 586012, +62 411 587444 Fax: 584641
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface Dean of Faculty of Dentistry The University of Tokushima</td>
<td>2</td>
</tr>
<tr>
<td>Preface Dean of Faculty of Dentistry Hasanuddin University</td>
<td>3</td>
</tr>
<tr>
<td>Greetings from the Chairman of Organizing Committee</td>
<td>4</td>
</tr>
<tr>
<td>Organizing Committee</td>
<td>5</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>7</td>
</tr>
<tr>
<td>Schedule of Conference</td>
<td>8</td>
</tr>
<tr>
<td>Abstracts of Oral Presentation</td>
<td>25</td>
</tr>
<tr>
<td>Abstracts of Poster Presentation</td>
<td>50</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>89</td>
</tr>
</tbody>
</table>
Schedule of Conference
December 4th, Thursday, Allamanda Ballroom

8:30am - 9:15am Opening Remark by Dean Prof. Tetsuo Ichikawa

9:15am - 10:55am Session 1 "Biomaterials & Tissue Engineering"

Chairpersons: Prof. Takafumi Noma (The University of Tokushima) & Dr. Susilowati (Hasanuddin University)

9:15 - 9:35 Keynote speaker 1
“Extremely Low Frequency Pulsed Magnetic Fields Accelerate Osteoblast Differentiation”
Megumi Watanabe
(Dept. Prosthodontics, Tokushima Univ. Grad. Sch)

9:35 - 9:55 Keynote speaker 2
“The Effect Of Oxygen Hyperbaric Therapy On Activity Of Collagenase 2 In Hyperglycemic Gingiva Rats”
Dian Mulawarmanti
(Dept. Oral Biology, Hang Tuah University)

9:55 - 10:55 General speakers (Presentation 10 min + discussion 5 min)

9:55 - 10:10 "Ctip2 Regulation Of Tooth Development Via Ssp6 Gene Expression"
Arya Adiningrat
(Dept. Molecular Biology, Tokushima Univ. Grad. Sch.)

10:10 - 10:25 "Combined Effects Therapy Of Recombinant Parathyroid Hormone (PTH 1-34) And Low-Intensity Pulsed Ultrasound On Osteoporotic Bone Fracture Healing In Rats”
Karima Qurnia Mansjur
(Dept. Orthodontics, Tokushima Univ. Grad. Sch.)

10:25 - 10:40 "Basic Research And Clinical Application Of Propolis In Conservative Dentistry And Endodontic Treatment”
Ardo Sabir
(Dept. Conservative Dentistry, Hasanuddin University)
Abstracts of Oral Presentation
Background: Cacao Bean Husk Ethanol Extract (CBHEE) has polifenol that active as anti-bacterial, especially anti-glucosyltransferase.

Aim: This study aimed to see the effectiveness of cacao bean husk ethanol extract (CBHEE) to reduce the number of mutans streptococci colonies in children (with young permanent teeth) saliva, when CBHE used as mouth rinse.

Materials and methods: This study used cross-sectional study design with time-series experimental study and used simple random sampling to get 30 subjects. The chosen subjects are those who have middle OHI-S status. Each subject was given the same intervention, the first step is collected saliva from subjects (prior to intervention), the second step is subjects were given 15 ml of CBHEE 0.1% mouth rinse to rinse their mouth about 30 seconds. After intervention, saliva was collected twice in 15 minutes and 30 minutes after intervention. Furthermore, the number of mutans streptococci colonies were measured in Colony Forming Units (CFU) and the data was statistically analyzed using ANOVA and paired t-test. Data analyzed and processed using SPSS 22.0 for windows version.

Results: From the data statistically showed significantly the reduction of Streptococcus mutans colonies before and after 30 minutes of intervention. Before intervention, there were 59.10 CFU/ml of mutans streptococci, and then 15 minutes after intervention it showed reduction of mutans streptococci become 25.73 CFU/ml and after 30 minutes of intervention, the counts of mutans streptococci showed reduction to 9.40 CFU/ml. From the test result, statistical value of this research was p=0.000 (p<0.05), which means that the reduction of mutans streptococci counts was significant.

Conclusion: Using cacao bean husk ethanol extract as mouth rinse for children has been proven highly effective in reducing mutans streptococci colony counts in mouth.

Keywords: Cacao bean husk ethanol extract, anti-glucosyltransferase, mouth rinse, mutans streptococci.

Poster 22
Analysis of Tumor Necrosis Factor-Alpha (TNF-a) Expression In Inflamed Rat Dental Pulp Tissue Following Propolis Application (An Immunohistochemistry Study)

Ardo Sabir¹, Rina Masadah², Didin E Indahyani³, Latief Mooduto⁴
¹ Department of Conservative Dentistry, Faculty of Dentistry, Hasanuddin University, Makassar, Indonesia.
² Department of Pathology, Faculty of Medicine, Hasanuddin University, Makassar, Indonesia.
³ Department of Oral Biology, Faculty of Dentistry, Jember University, Jember, Indonesia.
⁴ Department of Conservative Dentistry, Faculty of Dentistry, Airlangga University, Surabaya, Indonesia.
Correspondence author: Ardo Sabir, Department of Conservative Dentistry, Faculty of Dentistry, Hasanuddin University, Jl Perintis Kemerdekaan KM 10 Tamalanrea, Makassar 90245, Indonesia. Email: ardosabir@yahoo.com

Background: Tumor Necrosis Factor (TNF)-α is a proinflammatory cytokine. It may play a role in the extracellular matrix degradation during pulp inflammation. Propolis is a resinous substance produced by honey bees from various plants. It is acknowledged that propolis has antimicrobial activity as well as anti-inflammatory, anti-oxidant, antitumor, immuno-regulatory and regenerative tissue properties.

Objective: The aim of the present study was to analysis the expression of TNF-α in inflamed rat dental pulp tissue after propolis application.

Methods: Propolis was obtained from South Sulawesi Province, Indonesia. Flavonoid and non-flavonoid materials were purified from an Ethanolic Extract of Propolis (EEP) using Thin Layer Chromatography. Thirty six male Sprague-Dawley rats of 8-12 weeks old and 200-300 grams in weight were used in this study. The rats were randomly and equally divided into three groups. A class I cavity was prepared on the occlusal surface of right maxillary first molar. The dental pulp was exposed and maintained in oral environment for 1 hour, after that the pulp cappd with EEP (Group I), or with propolis flavonoids (Group II), or non-flavonoid propolis (Group III), then all cavities were filled with glass ionomer cement as permanent filling. Animals were sacrificed at 6 hours, 4, and 7 days after treatment, biopsy samples were obtained, and these were stained using immunohistochemistry method and viewed by light microscopy.

Result: The results showed that in Group I, II, and III numbers of TNF-α positive cells were gradually decreased from 6 hours to day 7. In Group I, the positive cells were less than Group II and III at all periods time.

Conclusion: These finding show that the anti-inflammatory effect of EEP on inflamed rat dental pulp was stronger than propolis flavonoids and non-flavonoid propolis, although these substances have anti-inflammatory properties too.

Keywords: Propolis, Flavonoid, Non-flavonoid, Dental Pulp, TNF-α, Rat.

Poster 23
Inhibition And Effectivity Of Curcuma xanthorrhiza roxb Against Total Colony Of Streptococcus mutans In vivo.

Daniel Tetan-El, M. Ilyas, Rasmidar Samad
Department of Dental Public Health, Faculty of Dentistry, Hasanuddin University, Makassar, Indonesia.

Background: Streptococcus mutans is the causative agent of dental caries. Indonesia have natural resources and has a wide variety of herbal ingredients, one of which is very well known that curcuma is known to contain essential oils which have antibacterial effect.