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2804 Periodontal disease in pregnancy – gene expression of nitric oxide

Friday, March 18, 2011: 3:30 p.m. - 4:45 p.m.  
Location: Hall C (San Diego Convention Center)  
Presentation Type: Poster Session

**C.C.M. OTENIO**, Odontopediatria, Universidade Federal De Juiz De Fora, Juiz de Fora, Brazil, **M.F.M. GUIMARÃES**, Molecular Biology Laboratory, Embrapa Dairy Cattle, Juiz de Fora, Brazil, **N.M.S.P. ASSIS**, Universidade Federal De Juiz De Fora, Juiz de Fora, Brazil, and **R.A. RIBEIRO**, Universidade Federal De Juiz De Fora, Juiz de Fora, Brazil

**Objective:** This study aimed to determine the standard of gene expression of iNOS in gingival tissue from pregnancy women with and without periodontal disease. **Method:** Data were expressed as Cycle threshold (Ct) values and relative quantification performed. The comparison between the two groups was performed using the program Rest<sup>®</sup> 2008. Gingival tissue was collected from an area with presence of periodontal pockets deeper than 4 mm in women with periodontal disease. In women without periodontal disease gingival tissue was collected from adjacent tissue to teeth with indication for extraction. All samples were collected during dental care in a School of Dentistry in Juiz de Fora, in the state of Minas Gerais, Southeast region of Brazil. Samples of gingival tissue (about 54 mg) were immediately immersed in 1.5 mL RNALater and stored at -20 °C. Total RNA was extracted using the RNeasy Mini Kit (Qiagen), following the manufacturer's recommendations. The first strand was synthesized and cDNA analysis of iNOS was performed by means of Real Time PCR. **Results:** This study analyzed the expression of iNOS gene into two pools consisting of samples of gingival tissue from these groups. The best concentrations of primer and the target gene cDNA for iNOS and the endogenous controls  $\beta$ -actin and GAPDH were 100 nM-400 ng, 50 nM-100 ng and 200 nM-100 ng, respectively. The amplification efficiency of target gene and endogenous controls was 0.9 and the temperatures of dissociation were 79°C, 86.2°C and 86.5°C, respectively. There were no peaks related to the amplification primer dimer or nonspecific products to any genes when analyzing the dissociation curve. **Conclusion:** The pre-established conditions for the analysis will be able to draw a profile of differential expression for each group.

**Keywords:** Enzymes, Gene expression, Inflammation and Periodontal disease

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## 305 Periodontal Infections: Diagnostic/Prognostic Markers

Friday, March 18, 2011: 3:30 p.m.-4:45 p.m.  
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Session Type: Poster Session  
1.25 CE hours

### Learning Objectives:

To provide and update on advances in the diagnosis of periodontal infections

- 2792** Periodontal Risk Assessment of Participants of a Health Awareness Program  
S.A. KHAN, C.G. TOH, L.L. SEOW, H. OMAR, U. DAOOD, and M.G. BABAR, School of Dentistry, International Medical University, Kuala Lumpur, Malaysia
- 2793** Detection and Quantification of Subgingival Bacteria in Brazilian Periodontal Subjects  
D. SALAMI<sup>1</sup>, A.S. RODRIGUES<sup>1</sup>, L.G. LIMA NETO<sup>2</sup>, A.D. LUCHESSI<sup>2</sup>, V.N. SILBINGER<sup>3</sup>, C.M. PANNUTI<sup>1</sup>, M.H. HIRATA<sup>2</sup>, R.F.M. LOTUFO<sup>1</sup>, and G. DE MICHELI<sup>4</sup>, <sup>1</sup>Periodontology, University of São Paulo, São Paulo, Brazil, <sup>2</sup>Clinical and Toxicological Analysis, University of São Paulo, São Paulo, Brazil, <sup>3</sup>Clinical and Toxicological Analysis, Universidade Federal Rio Grande Do Norte, Natal, Brazil, <sup>4</sup>Department of Stomatology, University of São Paulo, São Paulo, Brazil
- 2794** Detection and Elimination of the *Porphyromonas gingivalis* Biofilms  
N. HANADA<sup>1</sup>, H. TAKEUCHI<sup>1</sup>, H. SENPUKU<sup>2</sup>, and Y. NOMURA<sup>1</sup>, <sup>1</sup>Department of Translational Research, School of Dental Medicine, Tsurumi University, Yokohama-shi, Kanagawa, Japan, <sup>2</sup>Department of Bacteriology, National Institute of Infectious Diseases, Tokyo, Japan
- 2795** Pyrosequencing reveals significant associations between ethnicity and the subgingival microbiome  
M. MASON, Ohio State University, Columbus, OH, V.M. JOSHI, Maratha Mandal Dental College, Belgaum, Karnataka, India, H. FISCHBACH, Dentistry, Ohio State University, Columbus, OH, and P. KUMAR, College of Dentistry, The Ohio State University, Columbus, OH
- 2796** Smoking and microbiological diversity in patients with generalized chronic periodontitis  
T. MEULMAN<sup>1</sup>, A.P.O. GIORGETTI<sup>1</sup>, R. CASARIN<sup>2</sup>, D.C. PERUZZO<sup>1</sup>, M.Z. CASATI<sup>3</sup>, E.A. SALLUM<sup>3</sup>, R.B. GONCALVES<sup>4</sup>, and F.H. NOCITI, Jr.<sup>3</sup>, <sup>1</sup>State University of Campinas, Piracicaba, Brazil, <sup>2</sup>Department of Periodontics and Phrosthodontics, Universidade Estadual de Campinas, Piracicaba, Brazil, <sup>3</sup>Department of Prosthodontics and Periodontics, Division of Periodontics, Universidade Estadual de Campinas, Piracicaba, Brazil, <sup>4</sup>Periodontology - Groupe de Recherche en Ecologie Buccale, Université Laval, Quebec, QC, Canada
- 2797** Serum Rheumatoid Factor as Risk Predictor for Tooth Loss  
Y. HAYASHI, A. YOSHIMURA, and H. MIYAZAKI, Div. of Preventive Dentistry, Dep. of Oral Health Science, Niigata University Graduate School of Medical and Dental Sciences, Niigata City, Japan
- 2798** Predictive Power of Attachment Loss Measures: Severity of Periodontal Diseases  
H. LIU, V.W. SPOLSKY, C.A. MAIDA, Y. WANG, and M. MARCUS, School of Dentistry, University of California - Los Angeles, Los Angeles, CA
- 2799** Risk Indicators of Alveolar Bone Loss in Relation to Periodontitis  
J. KONGSTAD, U.A. HVIDTFELDT, and P. HOLMSTRUP, University of Copenhagen, Copenhagen N, Denmark
- 2800** Whole Saliva Sulfur Levels and Periodontitis  
A. KHOCHT, Temple University, Philadelphia, PA, M. SEYEDAIN, Periodontology, Temple University, Philadelphia, PA, S.A. HARDAN, Temple University, Berwyn, PA, and J.B. SUZUKI, Office of the Dean, Temple University, Philadelphia, PA
- 2801** Discrepancy between IgG Titer and Clinical Indexes in Chronic Periodontitis  
M. ITO, S. KOCHI, C. KUDO, and S. TAKASHIBA, Department of Pathophysiology - Periodontal Science, Okayama University, Okayama, Japan
- 2802** IL8 in GCF in Patients with Definitive Full Coverage Restorations  
P. HOLDEN<sup>1</sup>, J. CHANG<sup>2</sup>, M. WHEATER<sup>1</sup>, and L. CABANILLA JACOBS<sup>2</sup>, <sup>1</sup>Biomedical and Diagnostic Sciences, University of Detroit Mercy, Detroit, MI, <sup>2</sup>Periodontology and Dental Hygiene, University of Detroit Mercy, Detroit, MI
- 2803** Identification of Pro-Inflammatory Biomarkers During Periodontal Disease Progression  
J.S. KINNEY<sup>1</sup>, C. RAMSEIER<sup>2</sup>, T. MORELLI<sup>1</sup>, M. OH<sup>1</sup>, J.V. SUGAI<sup>1</sup>, and W.V. GIANNOBILE<sup>3</sup>, <sup>1</sup>Periodontics and Oral Medicine, University of Michigan, Ann Arbor, MI, <sup>2</sup>Department of Periodontology, University of Berne, Bern, Switzerland, <sup>3</sup>University of Michigan, Ann Arbor, MI
- 2804** Periodontal disease in pregnancy - gene expression of nitric oxide  
C.C.M. OTENIO, Odontopediatria, Universidade Federal De Juiz De Fora, Juiz de Fora, Brazil, M.F.M.



GUIMARÃES, Molecular Biology Laboratory, Embrapa Dairy Cattle, Juiz de Fora, Brazil, N.M.S.P. ASSIS, Universidade Federal De Juiz De Fora, Juiz de Fora, Brazil, and R.A. RIBEIRO, Universidade Federal De Juiz De Fora, Juiz de Fora, Brazil

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Analysis of Ednra expression in the gingival tissue during pregnancy

**G. KNUITSEN**, Baylor College of Dentistry, Dallas, TX, **Y. ZHANG**, Biomedical Sciences, Texas A&M Health Science Center Baylor College of Dentistry, Dallas, TX, and **L.-B. RUEST**, Texas A&M University System, Baylor College of Dentistry, Dallas, TX

2806

Salivary Biomarkers in Health, Gingivitis, and Periodontitis

**J. STEVENS**, **C. MILLER**, **M. AL-SABBAGH**, **D. DAWSON**, **J. SCHUSTER**, **B. FULLER**, **D. KRYSCIO**, **M. THOMAS**, and **J. EBERSOLE**, College of Dentistry, University of Kentucky, Lexington, KY

2807

Validation of the Gingival Crevicular Fluid sample collection technique

**D. BHATTACHARYA**<sup>1</sup>, **S. ROTH**<sup>2</sup>, **T. OATES**<sup>2</sup>, and **X. WANG**<sup>3</sup>, <sup>1</sup>Biology, University of Texas - San Antonio, San Antonio, TX, <sup>2</sup>Periodontics, University of Texas - San Antonio / Health Science Ctr, San Antonio, TX,

<sup>3</sup>Mechanical Engineering and Biomedical Engineering, University of Texas - San Antonio, San Antonio, TX

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## 2804 PERIODONTAL DISEASE IN PREGNANCY - GENE EXPRESSION OF NITRIC OXIDE

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**Objective:** This study aimed to determine the standard of gene expression of iNOS in gingival tissue from pregnant women without periodontal disease. **Method:** Data were expressed as Cycle threshold ( $C_t$ ) values and relative quantification. A comparison between the two groups was performed using the program Rest<sup>®</sup> 2008. Gingival tissue was collected from the presence of periodontal pockets deeper than 4 mm in women with periodontal disease. In women without periodontal disease, tissue was collected from adjacent tissue to teeth with indication for extraction. All samples were collected during a dental procedure in Juiz de Fora, in the state of Minas Gerais, Southeast region of Brazil. Samples of gingival tissue (about 1 mm<sup>3</sup>) were immediately immersed in 1.5 mL RNeasy Lysis Buffer and stored at -20 °C. Total RNA was extracted using the RNeasy Min Elute Spin Column according to the manufacturer's recommendations. The first strand was synthesized and cDNA analysis of iNOS was performed by RT-PCR. **Results:** This study analyzed the expression of iNOS gene into two pools consisting of samples of gingival tissue from pregnant women without periodontal disease and from women with periodontal disease. The best concentrations of primer and the target gene cDNA for iNOS and the endogenous controls  $\beta$ -actin and GAPDH were 50 ng, 50 nM-100 ng and 200 nM-100 ng, respectively. The amplification efficiency of target gene and endogenous controls were 79°C, 86.2°C and 86.5°C, respectively. There were no peaks related to the target gene or nonspecific products to any genes when analyzing the dissociation curve. **Conclusion:** The pre-established conditions will be able to draw a profile of differential expression for each group.

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