

AADR March 2012 Abstracts (Summer 2011 Students)

- N. Almodallal – Does a woman's periodontium respond to exercise like a man's
- R. Appel – Patient Recall of Oral Cancer Screening Examinations
- P. Bermudez – Using WHIM syndrome-like cells to study hBD3 induced CXCR4 internalization
- N. Chirouze – Receiving Dental Care: A Qualitative Assessment by HIV+ Adults
- C. Fraccaro – Periodontal Benefits of Supplementation and Exercise in Postmenopausal Women
- Y. Huang – Quantification of edentulous jaw bones using cone beam computed tomography images
- J. Jun – NOS2 Induction by Human Beta Defensin 3 (hBD3) in Macrophages

Methods: CXCR4 was cloned into the pEGFP1 mammalian expression vector. CXCR4 mutant was then generated by site directed mutagenesis and verified by DNA sequencing. The CXCR4 mutant was subcloned into the pmCherryN1 vector. pEGFP1-CXCR4 (green) and pmCherryN1-CXCR4 mutant (red) were co transfected into Hela cells. After 24 hours, the cells were put into serum free medium containing hBD3. 10⁶ cells were treated with SDF1 (30ng/ml) and PMA (100ng/ml) were used as positive controls.

Results: Imaging data indicated that while the GFP tagged CXCR4 was internalized by hBD3, hBD3 peptide was unable to induce internalization of the CXCR4 truncation mutant (pmCherry tagged).

Conclusion: Results indicate that hBD3 dependent CXCR4 internalization requires an intact C-terminal tail; i.e., similar to SDF1 dependent internalization. These cells could be used to further study HPV related susceptibility and infection. Supported by NIH/NIDCR P01DE019759 (AW).

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Receiving Dental Care: A Qualitative Assessment by HIV+ Adults
Thursday, March 22, 2012: 3:30 p.m. - 4:45 p.m. 7-

This abstract is based on research that was funded entirely or partially by an outside source. NIDCR K23 DE15746 and R21 DE21376, Center for AIDS Research AI136219, Dahms Clinical Research Unit of the CTSU UL1 RR024989 and UM01 RR000080, The Case Western Reserve University/Cleveland Clinic CTSA UL1 RR024989

Periodontal Benefits of Supplementation and Exercise in Postmenopausal Women

Thursday, March 22, 2012: 3:30 p.m. - 4:45 p.m.

Location: East Hall (Tampa Convention Center)

Presentation Type: Poster Session

C.P. FRACCARO, W. LIU, N. ALMUDALLAL, and L. BAHL-PALOMO, Periodontics, Case Western Reserve University, Cleveland, OH

Objectives: Postmenopausal women (PMW) are shown to lose skeletal bone linking them to periodontitis and tooth loss. Supplementation with Vitamin D, calcium, and bisphosphonate medications is beneficial for

clinicians using various imaging methods. The purpose of this study was to quantitatively evaluate jaw bone quality by CBCT images.

Methods: 20 completely edentulous patients were selected for this study. CBCT scans (Hitachi Inc. Japan) were performed using the following technical parameters: 120 KV, 15 MA, 240 mm field of view, and 0.292 voxel of 512x512 pixels for each slice. CBCT images were reconstructed to a three-dimensional model of each mandible and maxilla. Six sites of each patient were studied: upper incisor (UI), upper premolar (UP), upper molar (UM), lower incisor (LI), lower premolar (LP), lower molar (LM). For each site, cortical bone thickness (CBT) and bone mineral density using Hounsfield unit (HU) were measured at 6 locations; 0, 45, 90, 135, 180, 270 degrees of each cross section of alveolar bones. Trabecular bone (TB) width, height, and Hu were also measured. Non-parametric statistical tests were applied using Friedman's rank test and Kruskal-Wallis oneway ANOVA at $p < 0.05$.

Results:

Summary of averaged measurements as follows:

	UI	UP	UM	LI	LP	LM
CBHU	305+111	96+61	151+105	643+101		

Results: RNA and protein data show ~~cross~~ response induction of NOS2 in human THP

Beta