Alveolar Bone Loss and Periodontitis in Pre-Menopausal Women with and without HIV

COLUMBIA | VAGELOS COLLEGE OF PHYSICIANS & SURGEONS
PROGRAM FOR EDUCATION IN GLOBAL AND POPULATION HEALTH

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Research Question: Does effective antiretroviral therapy prevent periodontal disease in young women with HIV?

BACKGROUND

Without effective antiretroviral therapy (ART), people with HIV have increased gum inflammation, measured by bleeding on probing (BOP) and probing depth (PD), and increased periodontal destruction, measured by clinical attachment loss (AL) and alveolar crestal height (ACH). We have previously shown that even with effective ART, post-menopausal women with HIV have greater alveolar bone loss and greater tooth loss compared to women without HIV, but the effect on pre-menopausal women has not been studied.

DESCRIPTION OF ORGANIZATION

Columbia University Irving Medical Center (CUIMC) is a clinical, research, and educational enterprise located in northern Manhattan. One of the four professional schools at CUIMC, College of Dental Medicine serves as the largest provider of primary and specialty oral health care in the northern Manhattan communities. Furthermore, we strive to be the forefront leader in applying clinical, research, and public policy approaches to oral health issues around the world.

TABLES

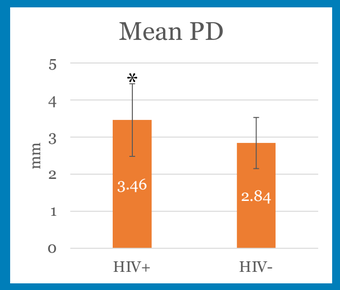

Figure 1. Mean PD.
Unadjusted p<0.01* Adjusted p=0.0255*

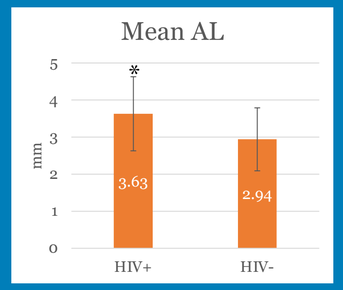

Figure 2. Mean AL.
Unadjusted p<0.01* Adjusted p=0.0392*

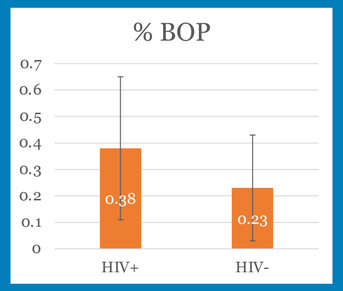

Figure 3. % BOP.
Unadjusted p=0.0137* Adjusted p=0.0819

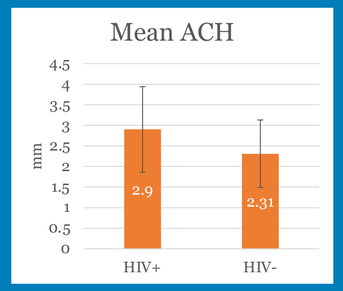

Figure 4. Mean ACH.
Unadjusted p=0.0188* Adjusted p=0.465

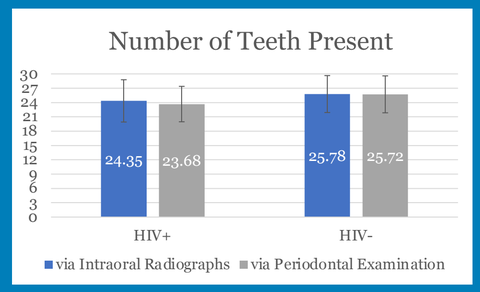

Figure 5. Number of Teeth Present.
Intraoral: Unadjusted p=0.191, Adjusted p=0.406
Periodontal Exam: Unadjusted p=0.0557, Adjusted p=0.349

Asterisks denote significance, p<0.05

METHODS

- 70 self-reported pre-menopausal women (21 HIV+ with virological suppression on ART, 49 HIV-; 34% African American, 54% Hispanic, and 11% White) were recruited in a prospective study at CUIMC.
- A full-mouth periodontal examination and intraoral radiographs were used to record PD, AL, BOP, number of teeth present, and ACH.
- Whole-mouth mean was calculated, and Unpaired Student T-tests were used to determine differences.

RESULTS

- Pre-menopausal women with HIV had significantly higher mean PD, AL, % BOP, and ACH
- After adjusting for age and race/ethnicity, between-group differences in PD and AL remained significant.

DISCUSSION

Our results support that even with effective ART, pre-menopausal women with HIV have increased periodontal soft tissue inflammation and destruction compared to women without HIV. Longitudinal studies are needed to assess periodontal disease progression in women with HIV through the menopause.

REFERENCES

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2. Wactawski-Wende J, Grossi SG, Trevisan M, Genco RJ, Tezal M, Dunford RG, Ho AW, Hausmann E, Hreshchyshyn MM. 1996. The role of osteopenia in oral bone loss and periodontal disease. Journal of Periodontology. 67(10S):1076–1084.

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