

## ACCELERATED ATHEROSCLEROSIS IN INDONESIAN HIV PATIENTS RESPONDING TO ART IS LINKED TO PERIODONTITIS

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**Background:** The early development of atherosclerosis in HIV patients responding to ART has been linked with persistent immune activation and a high burden of cytomegalovirus (CMV). Atherosclerosis has also been linked with periodontitis in the general population, when assessed by increased carotid intima-media thickness (cIMT) or poor flow-mediated dilatation (FMD). Prior studies implicate periodontal pathogens including *Porphyromonas gingivalis*, *Tannerella forsythia* and *Aggregatibacter actinomycetemcomitans* in atherosclerotic change – notably in individuals with “susceptible” APOE haplotypes. Moreover CMV has been independently associated with both conditions. Remaining questions include the role of host genotype (notably APOE), the high burden of CMV, and the changes expected in younger HIV patients who predominate in cohorts from Asia and Africa.

**Methods:** ART naïve HIV-infected adults (n=82) with <200 CD4<sup>+</sup> T-cells/mm<sup>3</sup> attending clinics at Cipto Mangunkusumo Hospital, Jakarta, were examined at the commencement of ART and after 3 and 12 months. 32 patients were re-assessed after 5 years with 32 healthy controls. We assessed the Community Periodontal Index of Treatment Needs (CPITN), cIMT and FMD, plus laboratory measures of immune activation, the burden of CMV and APOE genotypes.

**Results:** Periodontitis was present in 16/32 patients after 5 years and was potentiated by greater age [34 (24-45) vs 38.5 (26-52) years; p=0.03] and by poor oral hygiene (p=0.05), **plus a marginal association with tuberculosis (p=0.07)**. Periodontitis was not associated with smoking, oral candidiasis or CD4 T-cell counts (p>0.27). After 5 years on ART, right and left cIMT were greater in HIV patients with periodontitis (p=0.02, 0.01, resp). Moreover cIMT values were higher than controls in patients with periodontitis (p=0.05-0.01), but not in those without periodontitis (p=0.52-0.86).

**Conclusion:** Our data identifies a significant link between periodontitis and atherosclerosis in young adult HIV patients **stable on ART**. Data addressing the roles of CMV and APOE genotype will **also** be presented.

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