

POSTER PRESENTATION

Open Access

Comparison of plasma and salivary HIV loads determined via a coupling of the Abbott HIV detection system with the DNA Genotek OMNIgene™ DISCOVER (OM-505) kits

David J Speicher^{1,2*}, S Saravanan³, N Kumarasamy³, K Ranganathan⁴, NW Johnson^{1,2,4}

From 2nd International Science Symposium on HIV and Infectious Diseases (HIV SCIENCE 2014) Chennai, India. 30 January - 1 February 2014

Background

The DNA Genotek OMNIgene™ DISCOVER (OM-505) kits are designed to collect and store saliva at room temperature before the extraction and detection of DNA and RNA. Utilizing the OM-505 we determined the HIV salivary viral loads (SVL), which were compared with plasma viral loads (PVL).

Methods

SVL and PVL were determined on 40 HIV-positive ART naïve patients presenting at YRG CARE. Saliva was collected with the OM-505, incubated at 50°C for 1 hour. Prior to extraction 70 mL isopropanol was mixed with 800mL OM-505. From OM-505 and plasma, RNA was extracted automatically on the Abbott m2000sp. HIV loads were determined with the Abbott m2000rt system.

Results

A calibration curve produced by 10-fold dilutions of HIV virion in HIV negative saliva collected in the OM-505 was linear ($R^2=0.9951$) from 57,273 to 621 HIV copies/mL. In clinical isolates, PVL averaged 431,865 HIV copies/mL (range: 62 to 7,604,620 HIV copies/mL) whilst SVL averaged 23,267 HIV copies/mL (range: 153 to 220,104 HIV copies/mL). SVL was not detected in 15 samples and could not be determined in 5 samples due to viscosity and cellular debris causing problems during extraction. In 12/17 patients SVL was lower than PVL.

Conclusion

HIV, if present, can be detected accurately in saliva down to 621 HIV copies/mL. SVL does not correlate with PVL and thus cannot be used to accurately determine HIV carriage, but in most cases HIV shedding is low or nonexistent.

Authors' details

¹Molecular Basis of Disease Research Program, Griffith Health Institute, Griffith University, Queensland, Australia. ²Population & Social Health Research Program, Griffith Health Institute, Griffith University, Queensland, Australia. ³YR Gaitonde Centre for AIDS Research and Education, Chennai, India. ⁴Ragas Dental College, Chennai, India.

Published: 27 May 2014

doi:10.1186/1471-2334-14-S3-P80

Cite this article as: Speicher et al.: Comparison of plasma and salivary HIV loads determined via a coupling of the Abbott HIV detection system with the DNA Genotek OMNIgene™ DISCOVER (OM-505) kits. *BMC Infectious Diseases* 2014 **14**(Suppl 3):P80.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



* Correspondence: d.speicher@griffith.edu.au

¹Molecular Basis of Disease Research Program, Griffith Health Institute, Griffith University, Queensland, Australia

Full list of author information is available at the end of the article