



POSTER PRESENTATION

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# Prolonged elevation of viral loads in HIV-1-infected children in a region of intense malaria transmission in Northern Uganda

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## Background

### Introduction

Malaria and HIV-1 infection cause significant morbidity and mortality in children in sub-Saharan Africa. Recurrent malaria infection increases HIV-1 viral load in adults and increases the rate of progression of HIV-1 infection to AIDS. The effect of malaria on viral loads in Children living with AIDS (CLWA) is not clearly known.

### Objective

To assess the effect of malaria on HIV-1 viral loads in CLWA.

### Methods

One hundred thirty five afebrile HIV-1 positive children having negative blood slides for malaria were recruited at Apac Hospital and followed up for one year. They were monitored for development of *P. falciparum* malaria, which was treated with CQ+SP and the children followed up for 28 days. HIV-1 viral loads were measured over three time-points: at enrolment (no malaria), during an episode of malaria, and at a visit about 8 weeks (range 6-19 weeks) after the malaria visit when the child had neither parasites nor any intervening malaria episodes (post-malaria). Primary analyses were restricted to children who on follow up had HIV-1 viral loads measured at the three relevant time-points.

### Results

Baseline characteristics, Table 1.

Malaria increased HIV-1 viral load significantly in CLWA. Low parasitaemia  $\leq 5$ /HPF transiently

**Table 1**

SEX	MALE/FEMALE	41.1%/58.9%
AGE (yrs)	(1.5-5)/(6-12)	44.7%/55.3%
WHO CLASSIFICATION	n = 30, 55, 1, 2, 3, 4	percentage = 22.2%, 40.7%, 35.6%, 1.48%
HAEMOGLOBIN median, IQR	10.5	9.8 - 13.8

increased viral load by 0.42 log (95% CI 0.29-0.78,  $p = 0.0002$ ), higher than that reported in adults. These patients' viral loads returned to levels similar to those at baseline after treatment. In 13 patients with high parasitaemia (10-20/HPF), the mean increase in viral load was 0.53 log (0.14 to 0.51),  $p < 0.0001$ , remaining significantly higher than at baseline after treatment ie. mean difference (signed-rank test) in viral load "before" and "after" malaria was significant.

### Discussion

*P. falciparum* malaria increased HIV-1 viral loads in children, with some viral loads remaining elevated several weeks after antimalarial treatment. Prolonged post-treatment elevation has important implications for the clinical course and the potential for transmission in sexually active adults.

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