

## **ABSTRACT**

### **BACKGROUND::**

Infants born to HIV-1 infected mothers may have increased risk for tuberculosis (TB), but the prevalence of TB infection in this population is undefined. In contrast to tuberculin skin tests that are confounded by recent BCG vaccination, TB interferon gamma release assays (IGRAs) do not cross-react with BCG and enable detection of TB infection in infancy.

### **METHODS::**

In a nested observational cohort of HIV-1 infected Kenyan mothers and their infants, we conducted T-SPOT.TB assays on cryopreserved peripheral blood mononuclear cells (PBMCs) from 6-month old infants without prior active TB. Maternal and infant correlates of infant TB infection were assessed.

### **RESULTS::**

182 infants were tested with T-SPOT.TB. Of 128 infants with determinate T-SPOT.TB results, the prevalence of a positive T-SPOT.TB was 10.9% (95% confidence interval [CI]: 6.1-17.7%). All infants were BCG-vaccinated and 7.0% were HIV-1 infected. Positive infant T-SPOT.TB was associated with maternal active TB (OR 15.5, [95% CI 1.3-184],  $p=.04$ ) and prolonged infant fever (>1 month) (OR 18.8 [95% CI 1.6 - 223],  $p=.03$ ).

### **CONCLUSIONS::**

We observed a high prevalence of TB infection in 6-month old HIV-1 exposed infants. Improved TB detection and prevention is warranted in HIV-1 exposed infants at high risk for active TB disease.