

Improved Adherence to ART in Children – Orphans with AIDS Results in the Decreasing Occurrence of Tuberculosis (Research paper)

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Abstract:

Tuberculosis (TB) is one of the most frequent opportunistic infections in children with HIV in South-East Asia (SEA) together with *candidiasis*

and *Herpes Zoster* (HZV). After immunity re-constitution due to antiretroviral therapy (ART), occurrence of OI in AIDS decreased rapidly, including TB.

Introduction

Orphans with AIDS and their improved adherence to therapy and decreasing the incidence of TB in a full board Pediatric HIV Facility in Cambodia have been observed for the last 15 years. Opportunistic infections (OI) are the major cause of mortality in children and adults with AIDS. Tuberculosis (TB) is one of the most frequent OI in children with HIV in South-East Asia (SEA) together with *candidiasis* and *Herpes Zoster* (HZV). After immunity constitution due to antiretroviral therapy (ART) occurrence of OI in AIDS decreased rapidly, including TB. After 15 years of directly observed (DO) ARV therapy, only 1 case of TB among 40 children with AIDS occurred.

Patients and Methods

Sputum samples/blood from 31 children in an orphanage sheltering children with AIDS in Phnom Penh were undergoing Gene X-pert test for presence of latent TB infection. Gene X-pert was approved by WHO as a PCR point-of-care testing method for detection of MTB within 1 hour instead of 30 - 60 days. All children received ART for 2 - 12 years.

Results

Despite 10 children having a history of TB for the past 12 years, due to highly active antiretroviral therapy (HAART) all TB cases were cured after 6-0 months of combination of RIF+INH+PZA, Gene X-pert test was negative in all 31 children despite 4 having a recurrent history of TB within 6 months, all were receiving anti-TB therapy (3-4).

Table 1: Decrease of TB among orphans with AIDS receiving ART for 2 - 12 years.

	With AIDS	Without AIDS
Number of Children	31	4
Past History of TB	10	0
Current History of TB	4	0
Radiology Positive	4	0
Gene-Xpert Positive	0	0

Conclusion

Orphanages as a closed environment with community programs are protective against non-adherence to ARV in children. Proper intake of ART prevents from major OI including TBC, what has been documented by a new PCR based quick point of care test X-pert, which is also a method reliable in tropical and remoted settings.

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