

Sample HelpDesk Answer Submission: Prognostic Question

Manuscripts are submitted in the following format. To see how this manuscript appeared in print, please reference HDA Document #126 *Sample HDA Published: Prognostic Question*.

2015 EBP

Title: Prognosis for newborns with congenitally acquired HIV

Word Count: 402

What is the prognosis for newborns with congenitally acquired HIV?

Evidence-Based Answer

Infants with congenital HIV infections have lower morbidity and mortality rates when started on immediate antiretroviral therapy (ART) compared with delayed ART treatment (SOR: **A**, systematic review of RCTs). Infants who start early ART in the 3 months after birth have reduced morbidity and mortality even in the first year of life (SOR: **B**, single RCT).

Evidence Summary

Among untreated congenitally HIV-infected newborns, 50% progress to AIDS or death by age 2.¹ Advancements in treatment have led to 90% of HIV-infected children reaching the age of 10 in high-income countries. However, in low- and middle-income countries only 23% of HIV-infected children have access to treatment.

A Cochrane systematic review analyzed 5 RCTs (N=1,124) that investigated when to initiate ART, what treatment to start, and whether regimens should be switched.¹ Participants (age <24 months) received nevirapine (NVP, a non-nucleoside reverse transcriptase inhibitor) or lopinavir (LPV, a protease inhibitor) for 1 to 2 years.

Early treatment, compared with no treatment, was associated with a 75% reduction in mortality and disease progression (1 trial, N=377; HR 0.25; 95% CI, 0.12–0.51). Patients with NVP regimens had a higher risk for treatment failure (2 trials, N=411; HR 2.0; 95% CI, 1.5–2.8) than patients with LPV treatments. However, LPV is more expensive, needs refrigeration, and comes only in a bitter-tasting liquid form.¹

A retrospective trial compared the effect of starting any ART regimen (N=210) before or after 3 months of age in HIV-positive infants.² Deferred treatment was associated with increased risk of progression over 58 months (HR 3.0; 95% CI, 1.2–7.9).

All of the studies were consistent with World Health Organization (WHO) guidelines for antiviral treatment in infants and children.³ WHO indicates that ART should start immediately upon confirmed diagnosis of HIV in infants (<12 months old) irrespective of clinical or immunological stage. If no testing is available, ART should still be initiated in infants with clinically diagnosed severe HIV-related infections.

[Editor's note: There have now been case reports of infants being cured of HIV with very early, aggressive ART. This field is changing rapidly. Stay tuned.]

Krishnan Narasimhan, MD
Ethan Kellogg, MS
Lalita Kaul, PhD, RD, LD, LN

1. Penazzato M, Prendergast A, Tierney J, et al. Effectiveness of antiretroviral therapy in HIV-infected children under 2 years of age. *Cochrane Database Syst Rev.* 2012, (7):CD004772. **[STEP 1]**
2. Goetghebuer T, et al. Effect of early antiretroviral therapy on the risk of AIDS/death in HIV-infected infants. *AIDS.* 2009; 23(5):597–604. **[STEP 3]**
3. World Health Organization. Antiretroviral Therapy for HIV Infection in Infants and Children: Towards Universal Access. Recommendations for a Public Health Approach: 2010 Revision. <http://www.who.int/hiv/pub/paediatric/infants2010/en/>. Accessed April 23, 2014. **[STEP 3]**