

TUAB0103

Long-term trends in mortality and AIDS-defining events among perinatally HIV-infected children across Europe and Thailand

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Introduction: There are limited data on the prognostic effects of time-updated covariates on long-term mortality rates of perinatally HIV-infected children after starting ART. We analyzed individual patient data from 19 cohorts in 16 European countries and Thailand in EPPICC.

Methods: Perinatally HIV-infected children aged <18 starting cART were followed until death, loss to follow-up (LTFU), transfer to adult care, their 21st birthday or last visit to 31/12/2013. Crude rates of death and first AIDS-defining events were calculated. Baseline and time-updated risk factors for death \leq / $>$ 6 months of cART and progression to AIDS were assessed using inverse-probability-censoring-weighted Cox models to account for informative censoring of LTFU.

Results: Of 3527 children, 32, 20, 18 and 30% were from the UK/Ireland, Thailand, Russia/Ukraine and the rest of Europe, respectively. At cART initiation, median (IQR) age was 5.2 (1.4–9.3) years, and 42% had severe WHO immunological stage. Median follow-up was 5.6 (2.9–8.7) years. There were 94 deaths and 174 first AIDS-defining events, of which 43 (46%) and 79 (45%) occurred within 6 months of cART initiation. The crude mortality rate was 2.50 (95% confidence interval (CI): 1.86–3.38)/100 person-years (PY) in the \leq 6 month period, and 0.27 (0.21–0.36) thereafter. In total, 59 (63%) {31 \leq 6 months} deaths were from HIV-related infections, 19 (20%) {9} were HIV-related non-infectious conditions, 12 (13%) {1} were HIV-unrelated and 4 (4%) {2} were unknown. The rate of first AIDS-defining event was 0.88 (0.76–1.02)/100PY, including 31 (18%) HIV encephalopathy, 29 (17%) tuberculosis and 25 (14%) HIV wasting syndrome. The Table shows multivariable predictors of increased risk of death $>$ 6 months of cART. Predictors for death \leq 6 months (baseline only) and progression to AIDS (baseline and time-updated) were broadly similar.

Abstract TUAB0103–Table 1. Predictors of death > 6 months of cART

Variable		Adjusted HR (95% CI)	P
Country type	Middle-income (Russia, Ukraine, Thailand)	ref	0.028
	High-income	0.5 (0.2–0.9)	
Calendar year at cART start	1997–<2004	ref	0.035
	2004–<2008	0.4 (0.2–0.8)	
	≥ 2008	0.5 (0.1–1.5)	
BMI-for-age z-score at cART start	> 0	0.2 (0.1–0.6)	0.045
	– 3 to 0	ref	
	< – 3	0.5 (0.2–1.6)	
VL copy-years suppressed (≤ 400 c/ml) since cART Initiation (per year increase)		0.7 (0.6–0.9)	0.001
Current (time updated) age (years)	< 2	4.2 (1.4–12.7)	0.002
	2–< 5	0.2 (0.1–1.8)	
	5–< 14	ref	
	≥ 14	2.1 (1.0–4.2)	
Current (time updated) WHO immune stage severe	No	0.1 (0.1–0.2)	< 0.001
	Yes	ref	
Current (time updated) BMI-for-age z-score	> 0	1.1 (0.4–2.8)	< 0.001
	– 3 to 0	ref	
	< – 3	19.5 (7.2–52.8)	

Conclusions: Almost half of deaths occurred ≤ 6 months of cART, after which current severe WHO immune stage, low BMI-for-age z-score and fewer VL copy-years suppressed were the strongest predictors for mortality. The raised mortality risk in those aged ≥ 14 and in middle-income countries raises concern.