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Poster Exhibition

B4 - Disease burden - morbidity/mortality

TUPEB106 - Changing risks for death by duration on antiretroviral therapy in South Africa

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Background: We describe associations with mortality by duration on antiretroviral therapy (ART) in a workplace programme in South Africa.

Methods: ART-naïve individuals starting treatment between 2002 and 2008 were included. First-line ART was zidovudine, lamivudine and efavirenz. Criteria for initiation were CD4 < 250cells/ml³; WHO stage 4 condition; or WHO stage 3 condition and CD4 count < 350cells/ml³. CD4 and viral loads were monitored 6 monthly. Deaths were obtained from clinic and human resources data. Poisson regression was used to assess associations with mortality and age, sex, CD4, baseline WHO stage, history of tuberculosis, and HIV RNA.

Results: By December 2008, 5,154 individuals initiated ART (Median age 45 years; 91% male; median baseline CD4 156/mm³; 49% WHO stage 3/4). 460 patients died; overall mortality was 4.2/100pyrs.

Time on ART	Deaths	Mortality/100pyrs	Significant associations with death (multivariate analysis)
0-3m	185	15 (13-18)	CD4 at baseline (HR 0.76 per 50cell/mm ³ increase, p<0.001)
			WHO stage at baseline (HR 2.4, stage 4 vs 1, p<0.001)
			Age (HR 1.2 per 10 year increase, p=0.005)
3-6m	64	5.8 (4.5-7.4)	
6-12m	81	4.1 (3.3-5.2)	WHO stage at baseline (HR 6.5, stage 4 vs 1, p=0.002)
			CD4 rise from baseline (HR 0.15, >100cell/mm ³ rise, p<0.001)
			HIV RNA (HR 1.8, HIV RNA>400c/mL, p=0.04)
>12m	130	1.9 (1.6-2.3)*	CD4 rise from baseline (HR 0.23, >100cells/mm ³ rise, p<0.001)
			HIV RNA (HR 3.2, HIV RNA >400c/mL, p<0.001)

*Mortality/100pyrs: 12-24m 2.1 (1.6-2.7); 24-36m 1.8 (1.3-2.5); >36m 1.8 (1.3-2.6)

Conclusions: Mortality on ART declined rapidly until 12 months and then stabilized thereafter. Early mortality was associated with baseline HIV stage of disease and immunosuppression, while later mortality was associated with failure to maintain HIV RNA suppression and poor immune status.

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