

Supplementary table 1: characteristics of the cohort of HIV infected individuals

	CD4 increase (cells/ μ L)			
	Total	>100	25-100	<25
n	1,758	1,507	177	74
Median observation time (years) ¹	5.6 (2.4-8.6)	5.7 (2.5-8.7)	4.3 (2.0-7.6)	5.0 (2.2-8.6)
Cum. Observation time (years)	10,012	8704	896	412
Deaths (n)	117	82	22	13
Male ²	1,309 (74.5)	1,124 (74.6)	132 (74.6)	53 (71.6)
Age (years) ¹	39 (33-47)	38 (32-46)	42 (34-51)	40 (34-49)
<i>Origin²</i>				
Danish	1,244 (70.9)	1,069 (71.0)	124 (70.1)	51 (69.9)
African	249 (14.2)	207 (13.8)	26 (14.7)	16 (21.9)
Asian	119 (6.8)	108 (7.2)	9 (5.1)	2 (2.7)
Other	143 (8.2)	121 (8.0)	18 (10.2)	4 (5.5)
<i>Route of transmission²</i>				
Homosexual	797 (45.3)	703 (46.7)	70 (39.6)	24 (32.4)
Heterosexual	747 (42.5)	635 (42.1)	79 (44.6)	33 (44.6)
IDU	113 (6.4)	86 (5.7)	16 (9.0)	11 (14.9)
Other	101 (5.8)	83 (5.5)	12 (6.8)	6 (8.1)
HIV diagnosis before 1996 ²	389 (22.1)	316 (21.0)	46 (26.0)	27 (36.5)
Viral load at HAART initiation (log 10) ¹	5.0 (4.5-5.6)	5.0 (4.5-5.7)	4.7 (4.0-5.1)	4.6 (3.9-5.0)
CD4 at HAART initiation ¹	206 (91-280)	200 (90-280)	217 (110-280)	245 (170-323)
>250 cells/ μ L ²	595 (33.9)	496 (32.9)	64 (35.6)	36 (48.7)
100-250 cells/ μ L ²	700 (39.8)	599 (39.8)	73 (41.2)	28 (37.8)
<100 cells/ μ L ²	463 (26.3)	412 (27.3)	41 (23.2)	10 (13.5)
Time from HIV diagnosis to HAART (years) ¹	0.8 (0.1-4.8)	0.6 (0.1-4.5)	1.2 (0.2-6.6)	3.6 (0.2-9.2)
<i>Smoking status²</i>				
Never	501 (28.5)	430 (28.5)	54 (30.5)	17 (23.0)
Previous	236 (13.4)	199 (13.2)	29 (16.4)	8 (10.8)
Current	803 (45.6)	692 (45.9)	72 (40.7)	39 (52.7)
Missing data	218 (12.4)	186 (12.3)	22 (12.4)	10 (13.5)
Alcohol abuse ²	72 (4.1)	54 (3.6)	11 (6.2)	7 (6.5)
Co-morbidity ²	381 (21.7)	319 (21.2)	45 (25.4)	17 (23.0)
<i>CD4 2 years after HAART initiation²</i>				
>350 cells/ μ L	1,197 (68.1)	1137 (75.5)	51 (28.8)	9 (12.2)
200-350 cells/ μ L	425 (24.2)	316 (21.0)	75 (42.4)	34 (46.0)
<200 cells/ μ L	136 (7.7)	54 (3.6)	51 (28.8)	31 (41.9)

¹Median, (interquartile range); ² n (%)

Supplementary table 2: characteristics of population controls and the parent populations

	CD4 increase of corresponding HIV patient	n	Deaths	Median observation time (years) ¹	Cum. Observation time (years)	Male (n(%))	Age (years)
Parents of patients	all	1605*	397	8.7 (5.3-13.8)	16,099	720 (44.9)	60 (53-67)
Parents of patients	>100 cells/μL	1,379	320	8.7 (5.2-13.5)	13,688	617 (44.7)	60 (53-66)
Parents of patients	25-100 cells/μL	140	40	8.1 (5.8-14.3)	1,431	61 (43.6)	61 (52-70)
Parents of patients	<25 cells/μL	86	37	10.2 (5.7-16.3)	980	42 (48.8)	59 (52-66)
Population controls	all	22,854	623	5.9 (2.6-8.8)	134,742	17,017 (74.5)	39 (33-47)
Population controls	>100 cells/μL	19,591	507	6.0 (2.6-8.9)	116,116	14,612 (74.6)	38 (32-46)
Population controls	25-100 cells/μL	2,301	84	4.9 (2.2-8.3)	12,634	1,716 (74.6)	42 (34-51)
Population controls	<25 cells/μL	962	32	6.3 (3.0-9.6)	5,992	689 (71.6)	40 (34-49)
Parents of controls	all	31,527*	5,609	8.1 (4.8-12.1)	280,421	14,608 (46.3)	59 (53-66)
Parents of controls	>100 cells/μL	27,087	4,695	8.1 (4.8-11.9)	237,348	12,549 (46.3)	59 (53-66)
Parents of controls	25-100 cells/μL	2,830	592	7.4 (4.3-12.1)	25,392	1,308 (46.2)	60 (54-66)
Parents of controls	<25 cells/μL	1,610	322	10.4 (6.3-14.7)	17,681	751 (46.7)	58 (52-65)

¹median (interquartile range). *Only parents who were Danish citizens and alive at the date of HIV diagnosis of their offspring/the patient to whom their offspring was match were included

Supplementary figure 1: Kaplan-Meier survival curves. (A) HIV patients with CD4 increase <25 cells/ μ L (black), 25-100 cells/ μ L (dark grey) and >100 cells/ μ L (light grey). (B) Parents of HIV patients with CD4 increase <25 cells/ μ L (black), 25-100 cells/ μ L (dark grey) and >100 cells/ μ L (light grey).

