

APPENDIX I:

World Health Organization International Disease Classification (ICD) Codes, ICD-8 and ICD-10 used for the present classification.

CEREBROVASCULAR DISEASE:

SUBARACHNOID HAEMORRHAGE:

ICD8: 43000-43099

ICD 10: I 60.0-60.9

INTRACEREBRAL HAEMORRHAGE:

ICD8: 43100, 43108-43190, 43198-43199

ICD 10: I61.0-61.9

CEREBRAL INFARCTION:

ICD8: 43200-43299, 43309-43399, 43409-43499

ICD10: I63.0-63.9

UNSPECIFIED STROKE:

ICD 8: 43600-43699

ICD10: I64.9

TRANSIENT ISCHEMIC ATTACK:

ICD8: 43509-43599

ICD 10: G45.0-45.9

OTHER CEREBROVASCULAR DISEASES:

ICD8: 43101, 43191, 43709-43799, 43809-43899

ICD10: I62.0-62.9, I65.0-65.9, I66.0-66.9, I67.0-67.9, I68.0-68.8, G46.0-46.8

STROKE SEQUELS:

ICD 10: I69.0-69.8)

*Cases registered with two or more subgroups of cerebrovascular disease on the same date were categorized with the specific diagnosis (subarachnoid hemorrhage, intracerebral hemorrhage, cerebral infarction, unspecified stroke and transient ischemic attack) in preference for the unspecific diagnoses (other cerebral vascular disease or stroke sequels) and diagnoses belonging to the longest admission were preferred. Next the primary diagnosis (A-diagnosis) was chosen over the secondary diagnosis (B-diagnosis). Cases in which this method did not identify a specific diagnosis were categorized as unspecified stroke.

CEREBRAL COMORBIDITY:

CEREBRAL INFECTIONS INCLUDING OPPORTUNISTIC DISEASES:

ICD8: 013.00–013.99, 019.19, 036.09, 040.00–040.09, 045.09–045.99, 046.99, 052.01, 053.02, 054.03, 055.01, 056.01,

062.09–062.99, 063.09–063.99, 064.99, 065.99, 066.00–066.09, 071.99, 072.02, 075.01, 090.49, 094.00–094.99, 130.09–130.99, 320.09–320.99, 322.00–322.09, 323.00–323.01, 323.03–323.09, 324.00–324.09

ICD10: A06.6, A17.0–17.1, A32.1, A39.0, A52.1–52.3, A81.0–89.9,

B00.3–00.4, B01.0–01.1, B02.0–02.1, B05.0–05.1, B06.0, B22.0, B25.3, B26.1–26.2, B45.1, B58.2, B90.0, B94.1

G00.0–06.1, G07.9, G09.9

Co-morbidity diagnoses from The Danish HIV Cohort Study: Toxoplasmosis, Cryptococcus, Lymphoma – further sub classified to cerebral lymphoma), PML, aidsdemensia, CMV chorioretinitis

CEREBRAL CANCER/TUMOR/LYMPHOMA/METASTASIS:

ICD7: 931–937, 1920–1925, 1930–1933, 1954, 2930–2932, 4922–4923, 4930–4937, 6920, 6930–6932, 7930–7932, 8920–8923, 8930–8932, 8935, 8954

ICD10: C69.0–72.9 C75.1–75.3, C79.3, D32.0–33.9, D35.2–35.4, D42.0–43.9, D44.3–44.5

RISK FACTORS:

Outcomes (CVE) were classified as “CVE with proven risk factor’ if at least one of the following risk factors was registered in DNHR, DCR or DHCS prior to or within 30 days after an event (for cancer up to 90 days after an event): diabetes, hypertension, atrial fibrillation/flutter, hyperlipidemia, myocardial infarction, heart failure, patent foramen ovale, sick sinus syndrome, cardiomyopathy, mitral and/or aortic valve disease, peripheral arteriosclerosis, carotid artery stenosis, obesity, excessive alcohol intake, increased- or impaired coagulation, chronic kidney disease, chronic obstructive pulmonary disease, infectious endocarditis, cancer and IDU if registered as route of HIV transmission in the HIV patient.

ATIAL FLUTTER/FIBRILATION:

ICD 8: 427.93, 427.94

ICD 10: I48.9

HYPERTENSION:

ICD 8: 400.09–404.99, 410.09, 411.09, 412.09, 413.09, 414.09, 435.09, 437.00– 437.09, 438.09

ICD 10: I10.9–15.9

MYOCARDIAL INFARCTION:

ICD 8: 410.9, 410.99

ICD 10: I21.0–22.9

HEART FAILURE:

ICD 8: 425.99, 427.09–427.19, 427.99, 428.99

ICD 10: I50.0–50.9

CARDIOMYOPATHY:

ICD8: 746.40–746.49

ICD10: I 42.0–43.8

SICK SINUS SYNDROME:

ICD 10: I49.5

PATENT FORAMEN OVALE:

ICD 8: 746.40–746.49

ICD 10: Q21.1

MITRAL AND AORTIC VALVE DISEASE:

ICD 8: 394.00–396.99

ICD 10: I05.0–06.9, I08.0–08.9, I34.0–35.9

DIABETES:

ICD 8: 249.00–250.09

ICD 10: E10.0–14.9

EXCESSIVE ALCOHOL CONSUMPTION:

ICD 8: 291.09–291.99, 303.09–303.90

ICD 10: F10.1–10.9

PERIPHERAL ATHEROSCLEROSIS:

ICD 8: 440.20–440.30

ICD 10: I70.2

CAROTID ARTERY STENOSIS:

ICD 8: 432.90

ICD 10: I65.2

HYPERLIPIDEMIA:

ICD8: 279.00

ICD 10: E78.0–78.5

OBESITY:

ICD8: 277.99

ICD 10: E66.0–66.9

CHRONICAL KIDNEY DISEASE:

ICD 8: 581.00–582.09

ICD 10: N03.0–04.9, N07.0–07.9, N18.0–19.9

CHRONICAL OBSTRUCTIVE PULMONARY DISEASE:

ICD8: 491.00–492.00

ICD 10: J44.0–J44.9

INFECTIOUS ENDOCARDITIS:

ICD8: 421.00–421.99

ICD 10: I33.0–33.9

COAGULATION DISORDERS:

ICD8: 208.99, 282.50, 286.09–286.99, 287.09–287.99

ICD10: D45.9, D47.3, D57.0–57.8, D65.9–69.9, D75.2

MALIGNANCIES:

ICD 7: 140.0–204.4

ICD 10: C0.00–C97.9, B21.0–21.9

APPENDIX II:

Figure 1 Summary of the study design.

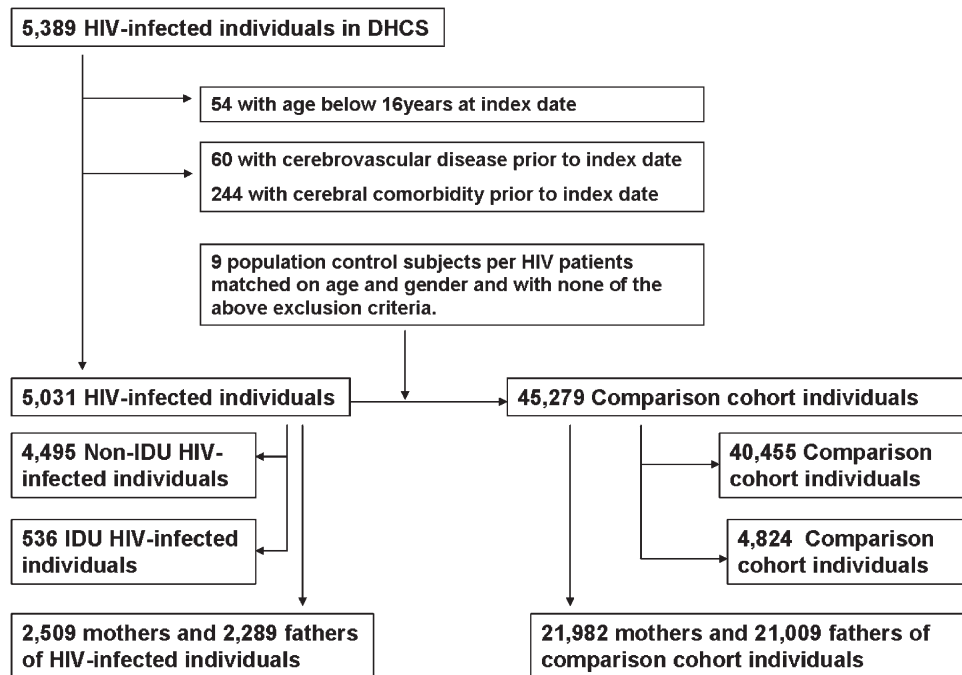


Table 1 Proven risk factors diagnosed in HIV-infected individuals and comparison cohort individuals.

	Non-IDU HIV-infected individuals (n = 4495)	Comparison cohort individuals (n = 40 455)	IDU HIV-infected Individuals (n = 536)	Comparison cohort individuals (n = 4824)
Proven risk factors registered prior to and up to 30 days (90 days for malignancy) after the end of the observation period:				
Myocardial infarction, N (%)	123 (2.7)	749 (1.9)	8 (1.5)	64 (1.3)
Heart failure, N (%)	83 (1.8)	513 (1.3)	17 (3.2)	33 (0.7)
Patent foramen ovale, N (%)	3 (0.1)	32 (0.1)	1 (0.2)	1 (0.0)
Sick sinus syndrome, N (%)	3 (0.1)	35 (0.1)	0 (0)	1 (0)
Cardiomyopathy, N (%)	28 (0.6)	160 (0.4)	3 (0.6)	16 (0.3)
Mitral and/or aortic valve disease, N (%)	27 (0.6)	228 (0.6)	9 (1.7)	21 (0.4)
Atrial flutter/Atrial fibrillation, N (%)	62 (1.4)	711 (1.8)	2 (0.4)	55 (1.1)
Carotid artery stenosis, N (%)	9 (0.2)	38 (0.1)	0 (0)	3 (0.1)
Arterial hypertension, N (%)	219 (4.9)	2418 (6.0)	19 (3.5)	250 (5.2)
Hyperlipidemia, N (%)	122 (2.7)	1148 (2.8)	2 (0.4)	133 (2.8)
Obesity, N (%)	54 (1.2)	1211 (3.0)	4 (0.7)	168 (3.5)
Excessive alcohol consumption, N (%)	275 (6.1)	1483 (3.7)	128 (23.9)	176 (3.6)
Diabetes, N (%)	147 (3.3)	1445 (3.6)	16 (3.0)	137 (2.7)
Peripheral arteriosclerosis, N (%)	39 (0.9)	273 (0.7)	9 (1.7)	14 (0.3)
Chronic kidney disease, N (%)	68 (1.5)	244 (0.6)	12 (2.2)	21 (0.4)
Chronic obstructive pulmonary disease, N (%)	109 (2.4)	682 (1.7)	48 (9.0)	56 (1.2)
Thrombophilia and other coagulation disorders including thrombocytopenia, N (%)	151 (3.4)	282 (0.7)	27 (5.0)	43 (0.9)
Endocarditis, N (%)	8 (0.2)	38 (0.1)	45 (8.4)	4 (0.1)
Malignancy, N (%)	558 (12.4)	1837 (4.5)	24 (4.5)	183 (3.8)

Table 2 Characteristics of parents of HIV-infected individuals and comparison cohort individuals.

	Mothers of HIV positive individuals (N = 2509)	Fathers of Comparison cohort individuals (N = 21 982)	HIV positive individuals (N = 2289)	Comparison cohort individuals (N = 21 009)
Median age at index date, median years (IQR)	38.0 (31.8–44.7)	37.5 (31.6–43.9)	41.0 (34.1–48.5)	40.3 (33.8–47.5)
Number in whom observation time started after 1. January 1977 (%)	296 (11.8)	2343 (10.7)	282 (12.3)	2417 (11.5)
Born in Denmark, N (%)	2354 (93.8)	21 318 (97.0)	2189 (95.6)	20 553 (97.8)
Duration of follow up:				
Duration of follow-up, person years	70 430	647 168	58 412	561 407
Duration of follow-up, median years (IQR)	33.6 (24.4–33.6)	33.6 (27.8–33.6)	29.5 (19.2–33.6)	31.6 (21.6–33.6)
Death, N (%)	641 (25.5)	4380 (19.9)	809 (35.3)	6634 (31.6)
Emigration, N (%)	29 (1.2)	114 (0.5)	33 (1.4)	151 (0.7)
Lost to follow, N (%)	2 (0.1)	0 (0)	3 (0.1)	4 (0)
First hospitalisation for cerebrovascular event (CVE) after index date:				
Total no. of CVE, N (%)	245 (9.8)	2003 (9.1)	316 (13.8)	2851 (13.6)
Subarachnoid hemorrhage, N (%)	19 (0.8)	153 (0.7)	13 (0.6)	77 (0.4)
Intracerebral hemorrhage, N (%)	24 (1.0)	151 (0.7)	31 (1.4)	186 (0.9)
Cerebral infarction, N (%)	63 (2.5)	501 (2.3)	85 (3.7)	746 (3.6)
Unspecified stroke, N (%)	92 (3.7)	734 (3.3)	120 (5.2)	1178 (5.6)
Transient ischemic attack, N (%)	47 (1.9)	464 (2.1)	67 (2.9)	664 (3.2)
CVE with proven risk factors, N (%)	147 (60.0)	1179 (58.9)	208 (65.8)	1741 (61.1)
CVE without proven risk factors, N (%)	98 (40.0)	824 (41.1)	108 (34.2)	1110 (38.9)
Median age at CVE, median years (IQR)	65.5 (59.3–73.6)	66.9 (59.1–73.8)	65.9 (60.3–72.8)	66.8 (60.3–73.5)
Risk of CVE after 5 years, % (95%CI):	0.32 (0.15–0.61)	0.28 (0.22–0.36)	0.75 (0.45–1.17)	0.47 (0.38–0.57)
Risk of CVE after 10 years, % (95%CI):	0.68 (0.42–1.07)	0.68 (0.57–0.79)	1.68 (1.21–2.27)	1.38 (1.23–1.54)

95% CI: Confidence Interval.