

**ONLINE SUPPLEMENT.****Supplemental table 1. Main baseline characteristics and Outcomes of Overall Study population (N=336)**

	<b>N</b>	<b>Value</b>
<b>Demographic characteristics</b>		
Age, y, mean±SD	336	66.9 ± 14.9
Men	336	180 (53.6)
<b>Medical history</b>		
Previous stroke	335	35 (10.5)
Previous TIA	336	25 (7.4)
Coronary artery disease	336	69 (20.5)
Sleep apnea syndrome	333	9 (2.7)
Heart rhythm disorders	335	79 (23.6)
<b>Vascular risk factors</b>		
Arterial hypertension	336	203 (60.4)
Diabetes mellitus	336	66 (19.6)
Hypercholesterolemia	336	158 (47.0)
Hypertriglyceridemia	336	52 (15.5)
Smoking	336	102 (30.4)
Chronic ethanol consumption	334	52 (15.6)
BMI, kg/m <sup>2</sup> , mean±SD	312	26.8 ± 4.9
<b>Routine drugs</b>		
Fibrates	336	23 (6.9)
Statins	336	107 (31.9)
Oral anticoagulants	336	19 (5.7)
Antiplatelet	336	126 (37.5)
ACE	336	63 (18.8)
Angiotensin II receptor antagonist	336	56 (16.7)
Diuretics	336	86 (25.6)

Calcium channel blockers	336	53 (15.8)
Betablockers	335	127 (37.9)
Oral hypoglycemic	336	51 (15.2)
Intravenous thrombolysis	332	94 (28.3)
Onset to admission time, hours, median (IQR)	332	2 (1-7)
NIHSS, median (IQR)	336	6 (2-14)
<b>Biological characteristics</b>		
Triglycerides, g/L, median (IQR)	329	1.1 (0.8-1.6)
Total cholesterol, g/L, mean±SD	329	1.95 ± 0.50
HDL-cholesterol, g/L, mean±SD	321	0.53 ± 0.16
LDL-cholesterol, g/L, mean±SD	319	1.16 ± 0.41
Glycated hemoglobin, %, median (IQR)	245	5.9 (5.6-6.4)
Hemoglobin, g/dL, median (IQR)	335	13.7 (12.9-14.7)
Leukocytes, /mm <sup>3</sup> , median (IQR)	334	8320 (6730-10130)
Neutrophils, /mm <sup>3</sup> , median (IQR)	315	5.6 (4.2-7.5)
Platelets, 1000/mm <sup>3</sup> , median (IQR)	335	235 (195-272)
Prothrombin index, %, median (IQR)	320	95 (86-100)
Activated partial thromboplastin time, s, median (IQR)	333	32 (29-35)
C-reactive protein, mg/L, median (IQR)	280	4.9 (2-9.7)
Aspartate aminotransferase, U/L, median (IQR)	321	23 (19-28)
Alanine aminotransferase, U/L, median (IQR)	322	20 (15-28)
<b>Outcome at 8-day</b>		
All-cause death	336	11 (3.3)
NIHSS ≥6	319	108 (33.9)
Poor outcome (mRS ≥2)	330	176 (53.3)
Poor outcome (Barthel <95)	321	154 (48.0)
Cognitive impairment (MMSE <24)	236	63 (26.7)
<b>Outcome at 90-day</b>		
All-cause death	316	36 (11.4)
Poor outcome (mRS ≥2)	316	145 (45.9)

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Poor outcome (Barthel <95)	278	88 (31.7)
Cognitive impairment (MMSE <24)	229	31 (13.5)

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Abbreviations: ACE=angiotensin converting enzyme, ASD=absolute standardized difference, BMI= body mass index, HDL= high density lipoprotein, IQR=interquartile range, LDL=low density lipoprotein, MMSE: Mini Mental State Examination, mRS: modified Rankin score, NIHSS= National Institutes of Health Stroke Scale, SD=standard deviation, TIA=transient ischemic attack

**Supplemental Table 2. Baseline characteristics in benzodiazepine users and non-users after propensity-score matching.**

	<b>Benzodiazepine non-users (n=56) *</b>	<b>Benzodiazepine users (n=56) *</b>	<i>ASD, %</i>
<b>Demographic characteristics</b>			
Age, y, mean±SD	72.6 ± 14.9	72.6 ± 12.6	0.2
Men	24 (42.6)	23 (40.4)	4.5
<b>Medical history</b>			
Previous stroke	6 (9.9)	5 (9.7)	0.1
Previous TIA	5 (8.1)	4 (7.2)	2.6
Coronary artery disease	13 (23.7)	14 (24.6)	2.4
Sleep apnea syndrome	2 (4.2)	2 (3.6)	2.5
Heart rhythm disorders	16 (29.3)	16 (29.3)	0.2
<b>Vascular risk factors</b>			
Arterial hypertension	43 (77.1)	43 (76.8)	0.8
Diabetes mellitus	7 (13.2)	7 (12.3)	5.7
Hypercholesterolemia	30 (54.0)	29 (52.3)	3.3
Hypertriglyceridemia	9 (16.5)	9 (16.8)	1.0
Smoking	13 (23.3)	12 (21.9)	2.7
Chronic ethanol consumption	9 (15.6)	7 (13.0)	6.7
BMI, kg/m <sup>2</sup> , mean±SD	26.2 ± 5.7	25.9 ± 5.3	6.0
<b>Routine drugs</b>			
Fibrates	6 (10.8)	6 (10.7)	0.2
Statins	19 (34.6)	18 (31.7)	6.0
Oral anticoagulants	19 (34.6)	18 (31.7)	3.1
Antiplatelet	24 (43.1)	24 (42.6)	1.1
ACE	15 (26.3)	14 (24.5)	4.0
Angiotensin II receptor antagonist	9 (16.9)	10 (17.4)	1.5
Diuretics	18 (31.9)	20 (35.4)	7.7

Calcium channel blockers	10 (18.0)	10 (17.6)	1.0
Betablockers	26 (46.0)	26 (45.8)	0.5
Oral hypoglycemic	6 (11.5)	6 (10.6)	2.4
Intravenous thrombolysis	16 (27.8)	15 (27.0)	1.6
Onset to admission time, hours, median (IQR)	2 (1-8)	2 (1-3)	22.0
NIHSS, median (IQR)	8 (2-17)	6 (2-18)	6.7
<b>Biological characteristics</b>			
Triglycerides, g/L, median (IQR)	1.02 (0.81-1.54)	1.02 (0.82-1.58)	3.6
Total cholesterol, g/L, mean±SD	1.93 ± 0.57	1.91 ± 0.52	3.5
HDL-cholesterol, g/L, mean±SD	0.54 ± 0.20	0.53 ± 0.14	2.0
LDL-cholesterol, g/L, mean±SD	1.14 ± 0.48	1.13 ± 0.45	3.3
Glycated hemoglobin, %, median (IQR)	6.0 (5.7-6.4)	5.9 (5.7-6.3)	3.5
Hemoglobin, g/dL, median (IQR)	13.4 (12.4-14.6)	13.5 (12.4-14.2)	7.5
Leukocytes, /mm <sup>3</sup> , median (IQR)	8473 (6919-9884)	8276 (6590-10597)	1.9
Neutrophils, /mm <sup>3</sup> , median (IQR)	5.7 (4.3-7.6)	5.7 (4.1-8.2)	4.0
Platelets, 1000/mm <sup>3</sup> , median (IQR)	240 (206-277)	236 (198-274)	9.9
Prothrombin index, %, median (IQR)	95 (86-100)	92 (84-100)	14.8
Activated partial thromboplastin time, s, median (IQR)	32 (29-36)	31 (28-36)	8.5
C-reactive protein, mg/L, median (IQR)	5.7 (2.5-9.6)	5.8 (2.6-9.7)	4.2
Aspartate aminotransferase, U/L, median (IQR)	23 (19-27)	23 (20-28)	6.4
Alanine aminotransferase, U/L, median (IQR)	18 (14-24)	18 (14-23)	5.7

Data are expressed as number (%) unless otherwise indicated. Descriptive parameters and ASD were calculated after handling missing baseline data including in propensity-score calculation by multiple imputation procedure (m=20 imputed datasets). \* mean numbers of matched pairs among the 20-imputed datasets.

Abbreviations: ACE=angiotensin converting enzyme, ASD=absolute standardized difference, BMI= body mass index, HDL= high density lipoprotein, IQR=interquartile range, LDL=low density lipoprotein, NIHSS= National Institutes of Health Stroke Scale, SD=standard deviation, TIA=transient ischemic attack.

**Supplemental table 3. Main baseline characteristics of patients loss and not loss at 90-day**

	90-day follow-up	
	Yes (n=316)	No (n=20)
Number of patients	316	20
Benzodiazepine use	58 (18.3)	4 (20.0)
Age, y, mean±SD	66.6 ± 14.9	71.5 ± 12.9
Men	170 (53.8)	10 (50.0)
Medical history		
Previous stroke	32 (10.1)	3 (15.8)
Previous TIA	24 (7.6)	1 (5.0)
Coronary artery disease	63 (19.9)	6 (30.0)
Sleep apnea syndrome	9 (2.9)	0 (0.0)
Heart rhythm disorders	75 (23.8)	4 (20.0)
Vascular risk factors		
Arterial hypertension	190 (60.1)	13 (65.0)
Diabetes mellitus	61 (19.3)	5 (25.0)
Hypercholesterolemia	149 (47.1)	9 (45.0)
Hypertriglyceridemia	51 (16.1)	1 (5.0)
Smoking	94 (19.7)	8 (40.0)
Chronic ethanol consumption	49 (15.6)	3 (15.0)
BMI, kg/m <sup>2</sup> , mean±SD	26.8 ± 5.0	25.5 ± 3.9

Data are expressed as number (%) unless otherwise indicated.

Abbreviations: BMI= body mass index, SD=standard deviation, TIA=transient ischemic attack.

**Supplemental table 4. Individual characteristics of the 36 mortality cases during the 90-day follow-up period after stroke onset.**

Patients	Benzodiazepines	Age	Gender	NHSS	Hypertension	Diabetes	Hypercholesterolemia	Smoking	Previous Stroke
1	No	87	Women	22	Yes	Yes	No	No	No
2	No	52	Women	6	Yes	No	Yes	Yes	Yes
3	No	39	Women	15	Yes	No	No	Yes	No
4	No	80	Men	11	Yes	Yes	Yes	Yes	Yes
5	No	72	Men	10	No	No	No	Yes	No
6	No	82	Men	20	No	No	No	No	No
7	No	82	Women	21	No	Yes	No	No	No
8	No	85	Women	22	Yes	No	No	No	Yes
9	No	89	Women	26	No	No	No	No	No
10	No	81	Women	20	Yes	Yes	Yes	No	No
11	No	71	Men	8	Yes	Yes	Yes	Yes	No
12	No	63	Men	19	Yes	No	No	No	No
13	No	43	Women	11	No	No	No	Yes	No
14	No	79	Men	11	No	No	No	No	No
15	No	44	Women	7	No	No	No	Yes	No
16	No	39	Men	18	No	No	No	No	No
17	No	38	Men	0	No	No	No	Yes	No
18	No	65	Men	19	No	No	No	Yes	No
19	No	46	Men	8	Yes	No	Yes	Yes	No
20	No	70	Women	8	Yes	Yes	Yes	No	No
21	No	48	Women	17	Yes	No	No	No	No
22	Yes	85	Men	21	No	No	No	No	No
23	Yes	53	Men	27	No	No	No	Yes	No
24	Yes	84	Women	32	Yes	No	Yes	No	Yes
25	Yes	84	Men	22	Yes	No	Yes	No	No
26	Yes	85	Women	27	Yes	No	Yes	No	No
27	Yes	93	Women	21	Yes	No	Yes	No	No
28	Yes	60	Men	1	Yes	No	Yes	No	No
29	Yes	86	Women	25	Yes	No	Yes	No	No
30	Yes	76	Women	20	Yes	Yes	No	No	No
31	Yes	66	Women	17	Yes	No	No	No	No
32	Yes	71	Women	13	Yes	No	Yes	No	No
33	Yes	83	Women	1	Yes	No	Yes	No	No
34	Yes	81	Men	1	No	No	Yes	No	Yes
35	Yes	83	Women	11	Yes	No	Yes	Yes	No
36	Yes	63	Women	0	Yes	No	No	No	No

**Supplemental table 5. Main baseline characteristics of alive patients with and without missing MMSE at 8- and 90-days**

	8-day MMSE		90-day MMSE	
	Not missing	Missing	Not missing	Missing
Number of patients	236	89	229	71
Benzodiazepine use	40 (16.9)	17 (19.1)	35 (15.3)	12 (16.9)
Age, y, mean±SD	65.2 ± 14.4	70.3 ± 15.2	65.5 ± 14.9	69.8 ± 13.3
Men	132 (55.9)	45 (50.6)	128 (55.9)	37 (52.1)
Medical history				
Previous stroke	22 (9.3)	10 (11.4)	22 (9.6)	8 (11.4)
Previous TIA	16 (6.8)	9 (10.1)	14 (6.1)	7 (9.9)
Coronary artery disease	40 (16.9)	26 (29.2)	44 (19.2)	14 (19.7)
Sleep apnea syndrome	6 (2.6)	3 (3.4)	4 (1.8)	4 (5.7)
Heart rhythm disorders	51 (21.6)	24 (27.3)	52 (22.8)	19 (26.8)
Vascular risk factors				
Arterial hypertension	137 (58.0)	57 (64.0)	138 (60.3)	42 (59.1)
Diabetes mellitus	44 (18.6)	19 (21.3)	47 (20.5)	12 (16.9)
Hypercholesterolemia	107 (45.3)	47 (52.8)	111 (48.5)	31 (43.7)
Hypertriglyceridemia	41 (17.4)	10 (11.2)	40 (17.5)	8 (11.3)
Smoking	81 (34.3)	18 (20.2)	67 (29.3)	23 (32.4)
Chronic ethanol consumption	39 (16.7)	13 (14.6)	38 (16.6)	13 (18.6)
BMI, kg/m <sup>2</sup> , mean±SD	26.7 ± 4.8	27.0 ± 5.1	26.8 ± 4.8	26.6 ± 5.0

Data are expressed as number (%) unless otherwise indicated.

Abbreviations: BMI= body mass index, SD=standard deviation, TIA=transient ischemic attack.