

**Supplementary Table 1.** Demographic findings, cardiovascular risk factors, and DOAC-specific findings of all included patients (n=211)

Variable	AUC cohort (n=211, 100%)	Apixaban (n=79, 100%)	Edoxaban (n=20, 100%)	Rivaroxaban (n=88, 100%)	Dabigatran (n=24, 100%)
Female sex	107 (50.7)	46 (58.2)	9 (45.0)	40 (45.5)	12 (50.0)
Age (yr)	80 (75–86)	82 (77–88)	78 (75–81)	79 (73–86)	78 (75–83)
Body weight (kg)	75 (65–85) 201 (95.3)	74 (65–83) 75 (94.9)	78 (70–85) 20 (100)	75 (65–85) 83 (94.3)	81 (64–92) 23 (95.8)
Ischemic stroke	157 (74.4)	59 (74.7)	17 (85.0)	61 (69.3)	20 (83.3)
TIA	54 (25.6)	20 (25.3)	3 (15.0)	27 (30.7)	4 (16.7)
Large vessel occlusion (ICA, MCA [1–3], PCA, ACA, BA)	71 (33.6)	27 (34.2)	6 (30.0)	32 (36.4)	6 (25.0)
Large-artery atherosclerosis*	21 (13.4)	5 (8.5)	3 (17.6)	10 (16.4)	3 (15.0)
Cardioembolism*	124 (79.0)	53 (89.8)	12 (70.6)	46 (75.4)	13 (65.0)
Small-vessel occlusion*	2 (1.3)	0 (0)	1 (5.9)	1 (1.6)	0 (0)
Stroke of other determined etiology*	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Stroke of undetermined etiology*	10 (6.4)	1 (1.7)	1 (5.9)	4 (6.6)	4 (20.0)
Time of ischemic stroke/TIA (00:00–7:59) <sup>†</sup>	33 (18.4)	18 (26.9)	3 (18.8)	8 (10.3)	4 (22.2)
Time of ischemic stroke/TIA (8:00–15:59) <sup>†</sup>	94 (52.5)	30 (44.8)	6 (37.5)	48 (61.5)	10 (55.6)
Time of ischemic stroke/TIA (16:00–23:59) <sup>†</sup>	52 (29.1)	19 (28.4)	7 (43.8)	22 (28.2)	4 (22.2)
Functional impairment					
Admission NIHSS of patients with ischemic stroke	6 (3–16)	7 (4–18)	4 (2–15)	9 (3–15)	4 (1–11)
Premorbid modified Rankin Scale	1 (0–3)	2 (0–3)	1 (0–2)	1 (0–3)	1 (0–3)
Modified Rankin Scale at 3 months	3 (1–5) 199 (94.3)	3 (1–6) 74 (93.7)	1 (0–4) 19 (95.0)	2 (0–5) 83 (94.3)	3 (1–3) 23 (95.8)
Comorbidities					
Arterial hypertension	190 (90.0)	70 (88.6)	19 (95.0)	78 (88.6)	23 (95.8)
Diabetes	68 (32.2)	28 (35.4)	2 (10.0)	24 (27.3)	14 (58.3)
Hypercholesterolemia	119 (56.4)	39 (49.4)	15 (75.0)	51 (58.0)	14 (58.3)
Previous stroke or TIA	74 (35.1)	33 (41.8)	6 (30.0)	29 (33.0)	6 (25.0)
Congestive heart failure	40 (19.0)	17 (21.5)	4 (20.0)	14 (15.9)	5 (20.8)
Vascular disease	114 (54.0)	39 (49.4)	9 (45.0)	49 (55.7)	17 (70.8)
Atrial fibrillation	192 (91.0)	73 (92.4)	17 (85.0)	80 (90.9)	22 (91.7)
Premorbid CHA <sub>2</sub> DS <sub>2</sub> -VASc score	5 (4–6)	5 (4–7)	5 (4–6)	5 (4–6)	6 (5–7)
Creatinine at admission (mg/dL)	0.92 (0.77–1.14)	0.93 (0.75–1.23)	0.93 (0.76–1.04)	0.95 (0.77–1.14)	0.85 (0.77–1.12)
eGFR (mL/min) <sup>‡</sup>	62.0 (47.6–82.2) 167 (79.1)	56.6 (43.2–78.9) 61 (77.2)	67.6 (52.2–83.4) 16 (80.0)	65.4 (48.2–82.6) 73 (83.0)	63.7 (55.2–87.5) 17 (70.8)
Pharmacotherapy					
Additional antiplatelet therapy	19 (9.0)	6 (7.6)	1 (5.0)	9 (10.2)	3 (12.5)
Time between last DOAC intake and admission (min)	582 (282–891)	542 (298–826)	658 (432–1293)	610 (275–955)	420 (205–795)
Time between DOAC intake and event (min) <sup>†</sup>	480 (210–690) 179 (84.8)	450 (280–630) 67 (84.8)	515 (378–1043) 16 (80.0)	450 (150–848) 78 (88.6)	495 (229–668) 18 (75.0)
DOAC concentration <sup>§</sup> at admission (ng/mL)	110.0 (42.2–220.0)	123.0 (59.6–210.0)	38.0 (11.9–103.7)	127.5 (26.4–291.5)	83.8 (47.6–200.8)
Power transformed normalized AUC	0.4399 (0.2889–0.5793)	0.3949 (0.2916–0.4881)	0.4387 (0.3036–0.4903)	0.5610 (0.2722–0.6730)	0.4284 (0.2447–0.5355)
Power transformed normalized DOAC concentration at event onset <sup>†</sup>	0.5577 (0.2573–0.8037) 179 (84.8)	0.5810 (0.4604–0.7924) 67 (84.8)	0.3204 (0.823–0.6051) 16 (80.0)	0.5883 (0.1791–0.8610) 78 (88.6)	0.3927 (0.2394–0.5747) 18 (75.0)
Non-adherence	19 (9.0)	4 (5.1)	2 (10.0)	12 (13.6)	1 (4.2)
Prescription quality					
DOAC adherence to SmPCs: underdosed	51 (24.2)	25 (31.6)	2 (10.0)	23 (26.1)	1 (4.2)
DOAC adherence to SmPCs: correctly dosed	153 (72.5)	53 (67.1)	18 (90.0)	60 (68.2)	22 (91.7)
DOAC adherence to SmPCs: overdosed	7 (3.3)	1 (1.3)	0 (0)	5 (5.7)	1 (4.2)

Values are presented as number (%) or median (interquartile range).

DOAC, direct oral anticoagulant; AUC, area under the curve; TIA, transient ischemic attack; ICA, internal carotid artery; MCA (1–3), middle cerebral artery (segments 1–3); PCA, posterior cerebral artery; ACA, anterior cerebral artery; BA, basilar artery; NIHSS, National Institutes of Health Stroke Scale; eGFR, estimated glomerular filtration rate; SmPC, recommended doses from summaries of product characteristic.

\*According to Trial of Org 10172 in Acute Stroke Treatment (TOAST) criteria in ischemic stroke patients only; <sup>†</sup>Concentration subgroup only (total n=179; 84.8%); <sup>‡</sup>Estimated glomerular filtration rate according to Cockcroft–Gault formula; <sup>§</sup>Ultraprecision liquid chromatography–tandem mass spectrometry.