

SUPPLEMENTAL MATERIAL

Figure I. Axial CT angiogram maximum intensity projection of two patients enrolled in DEFUSE 3, both with a right M1 occlusion (not shown). A: right hemisphere shows a paucity of distal MCA arborization, consistent with poor collaterals on the Tan scale. B: right hemisphere shows an exuberant number of distal vessels despite the M1 occlusion, consistent with good collaterals on the Tan scale.

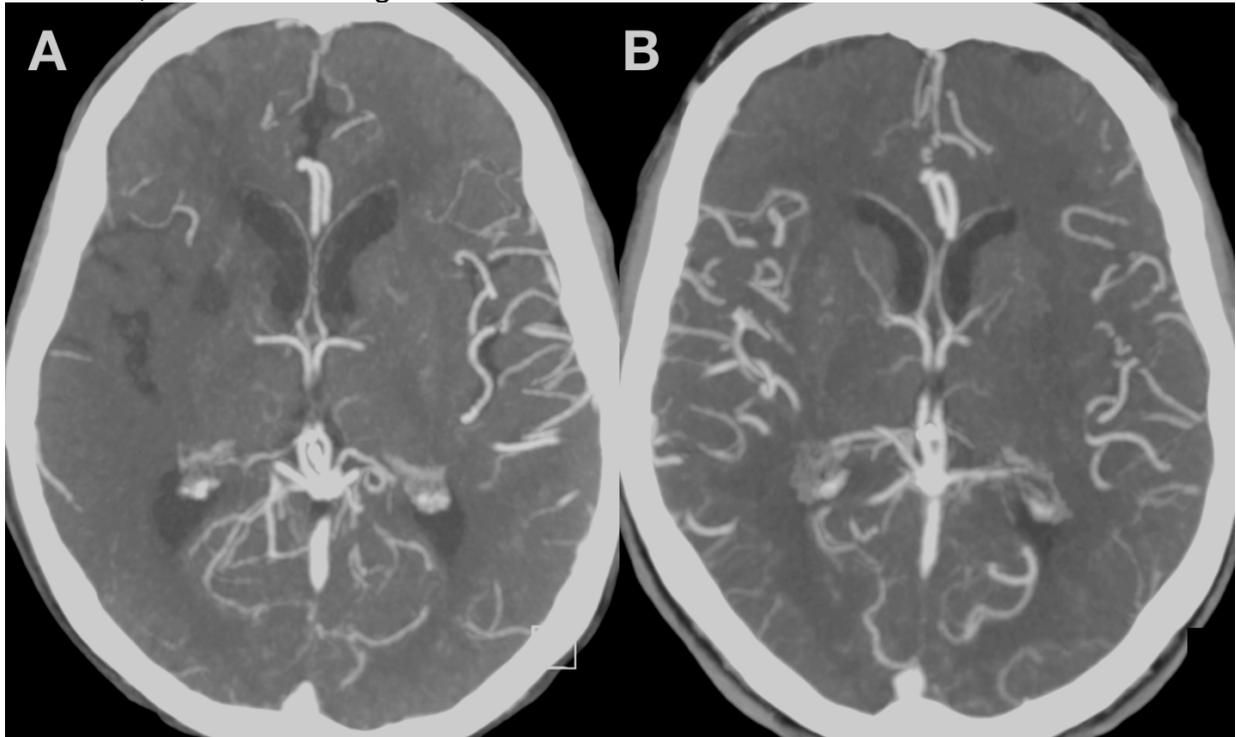


Figure II. Box and whisker plot showing absolute infarct volume (mL) on baseline baseline imaging, with patients stratified by good versus poor collaterals for the (A) binary Tan collateral scale and (B) a dichotomization of the ordinal categories of the Maas collateral scale [good (3-5) versus bad (1-2) collaterals]. For both collateral scales, the baseline infarct volume was significantly smaller in patients with good collaterals ($p < 0.05$).

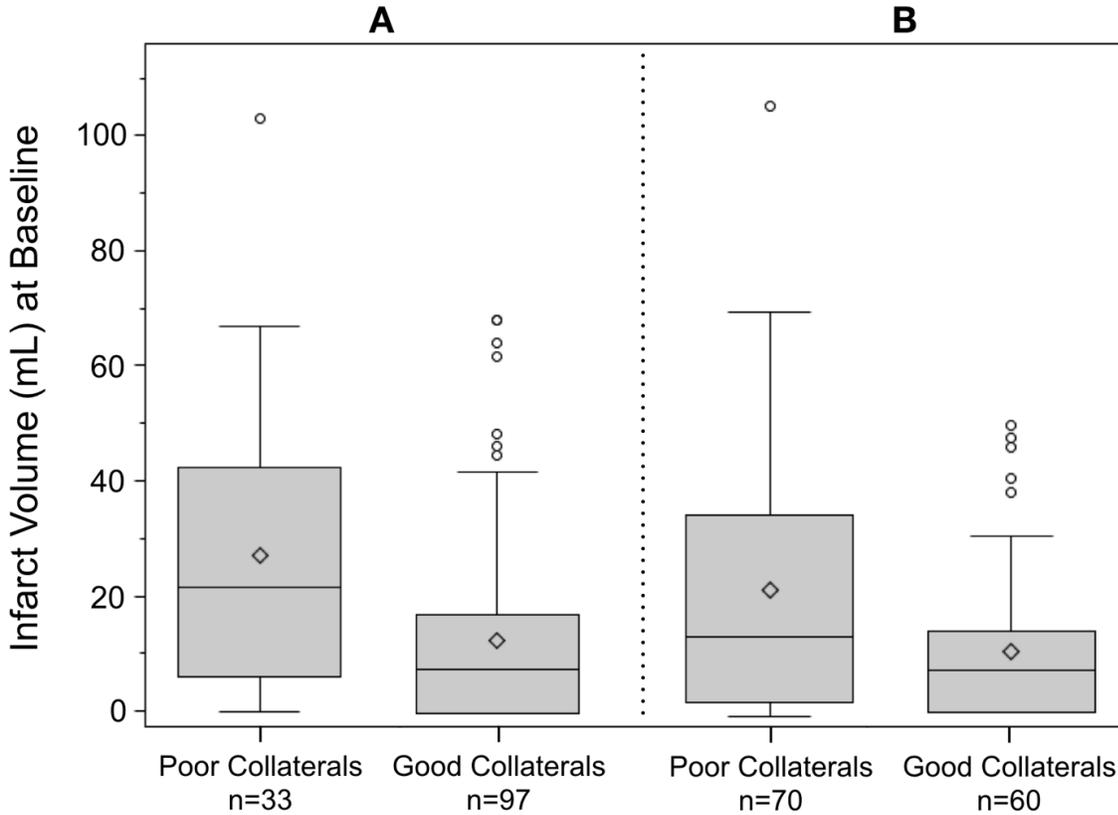


Figure III. Box and whisker plot showing absolute infarct volume (mL) on 24-hour follow-up imaging, with patients stratified by the ordinal categories of the Maas collateral scale and further divided by reperfused/recanalized (red, N=54) and not reperfused/recanalized (blue, n=62). Collateral status was not associated with a significant difference in infarct volume ($p=0.192$ for entire cohort, $p=0.218$ for not reperfused/recanalized, 0.203 in reperfused, Kruskal-Wallis test). However, Jonckheere-Terpstra test for ordered differences in the Maas scale is significant for combined ($p=0.038$) and in not reperfused/recanalized ($p=0.043$), but not for the reperfused/recanalized patients ($p=0.143$).

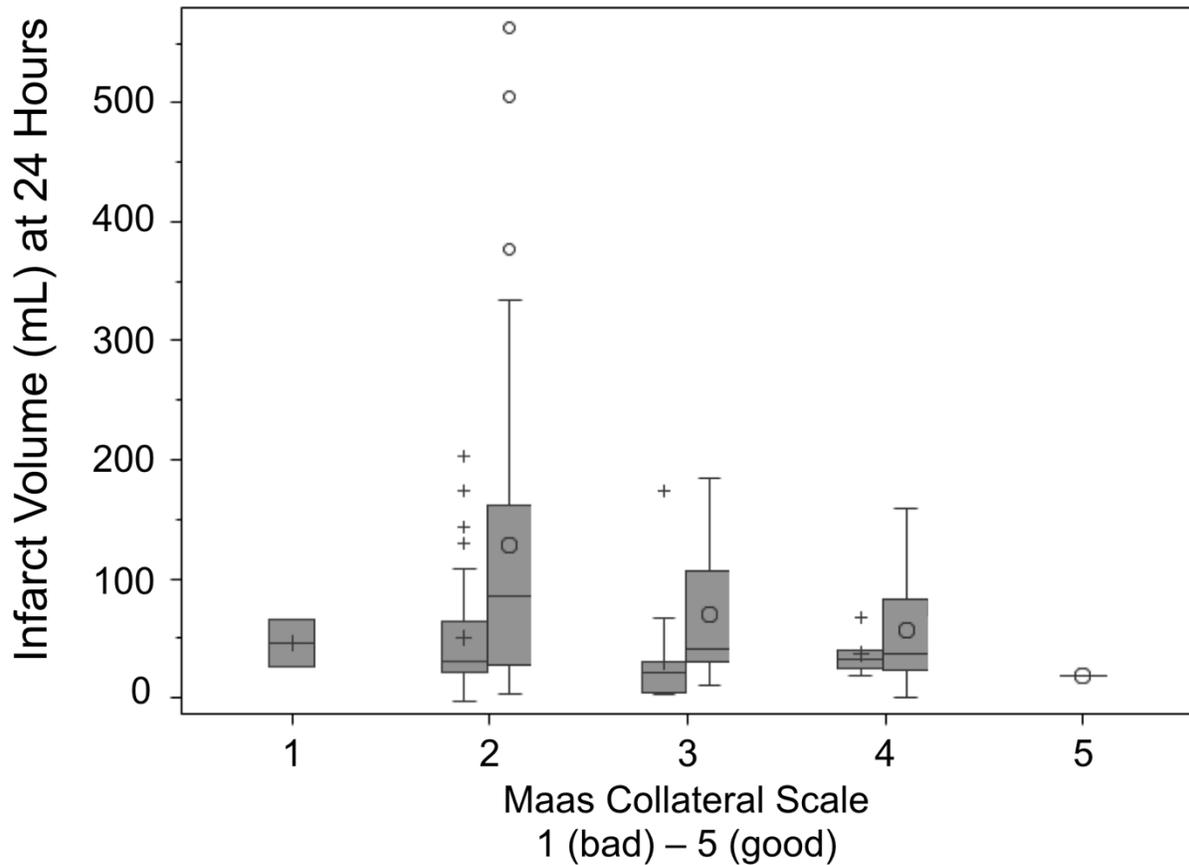


Table 1: Demographics of entire cohort, patients with good and poor collaterals and p-value for difference between dichotomized Maas collateral status arms.

	Good collaterals (Maas = 3-5) (n=61)	Poor collaterals (Maas = 1-2) (n=70)	p-value
Age	71 (58-78)	71 (60-81)	0.846
Female	28 (46)	35 (50)	0.640
Ethnicity Hispanic	4 (7)	8 (12)	0.322
Race White	54 (89)	58 (83)	0.358
HTN	48 (79)	57 (81)	0.695
HLD	29 (48)	34 (49)	0.906
Atrial fib	26 (43)	23 (33)	0.249
DM	19 (31)	19 (27)	0.614
Prior CVA	8 (13)	13 (19)	0.396
Presentation NIHSS	16 (12-21)	17 (12-20)	0.996
Treated with tPA	4 (7)	4 (6)	1.0
MCA occlusion	35 (57)	47 (67)	0.249
Ischemic core (mL)	7.1 (0-13.8)	13.6 (2.4-34.3)	0.010
Perfusion lesion (mL)	99.0 (58.3-160.3)	129.0 (88.0-163.6)	0.034
Mismatch volume (mL)	88.5 (49.3-145.7)	107.0 (72.7-132.5)	0.260

Hypoperfusion intensity ratio	0.25 (0.15-0.43)	0.44 (0.26-0.58)	<0.001
Time from stroke onset to baseline imaging	10:43 (8:49-11:49)	9:49 (8:12-11:36)	0.208
Time from stroke onset to femoral puncture	11:36 (9:41-12:37)	11:24 (9:49-13:13)	0.964
Time from stroke onset to reperfusion	12:42 (9:48-13:33)	12:17 (11:00-13:42)	0.828
ASPECTS	8 (7-9)	8 (7-9)	0.444
Right hemisphere stroke	24 (39)	36 (51)	0.166
Baseline SBP	148 (136-162)	143 (128-159)	0.077
Creatinine	0.96 (0.78-1.1)	0.9 (0.78-1.2)	0.886
Glucose	122 (109-151)	125 (108-155)	0.950
WBC	8.9 (6.8-10.7)	8.95 (6.98-10.9)	0.791
Platelets	212 (164-260)	219 (174-262)	0.593
Hematocrit	40.9 (37.0-43.4)	40.8 (36.9-43.3)	0.597
INR	1.04 (1.0-1.1)	1.1 (1.0-1.2)	0.343

Notes:

- 1) Ischemic core = relative cerebral blood flow <30%; perfusion lesion = Tmax <6 seconds; mismatch volume = perfusion lesion-lesion core.
- 2) Continuous variables: median (IQR); categorical data: n(%).

Table II: Selected outcomes in DEFUSE 3 for the entire cohort, patients with good and poor collaterals and p-value for difference between Maas collateral status arms.

	Good collaterals (Maas = 3-5) (n=61)	Poor collaterals (Maas = 1-2) (n=70)	p-value
Early neurologic deterioration	9 (15)	4 (6)	0.084
Infarct volume (mL) at 24 hours	32.8 (18.4-67.0)	51.1 (28.3-130.0)	0.033
Infarct growth (mL) from baseline to 24 hours	27.0 (13.2-50.5)	38.0 (13.2-94.8)	0.188
Perfusion lesion (mL) at 24 hours	14.4 (0-57.4)	6.8 (0-69.2)	0.997
Mismatch volume (mL) at 24 hours	-18.9 (-37.9 -- 3.2)	-34.0 (-87.2 -- 7.0)	0.035
Endovascular therapy randomization	28 (46)	38 (54)	0.338
Reperfusion >90%*	21 (44)	26 (50)	0.532
Complete recanalization on CTA/MRA	26 (48)	31 (52)	0.708
Reperfusion and/or recanalization	23 (42)	30 (48)	0.476
Symptomatic ICH	3 (5)	3 (4)	1.0
Parenchymal hematoma 2 (ECASS II)	2 (3)	6 (9)	0.283
Modified Rankin scale 0-2 at 90 days	17 (28)	25 (36)	0.337
Stroke-related death at 90 days	12 (20)	14 (20)	0.963

Notes:

- 1) Continuous variables: median (IQR); categorical data: n(%).