

Supplemental Material

eTable 1: Factors Associated with a Change in Intraventricular Haemorrhage Volume in Simple Linear Regression Models

| Covariates | Univariable Analysis | |
|--|------------------------|---------|
| | β (95% CI) | P-value |
| Age | -0.001 (-0.04 to 0.04) | 0.96 |
| Male sex | 0.63 (-1.58 to 0.33) | 0.20 |
| Hispanic ethnicity | 0.92 (-0.33 to 2.16) | 0.15 |
| Black race | 0.51 (-1.74 to 0.73) | 0.42 |
| Hypertension | -0.93 (-1.38 to 3.25) | 0.43 |
| Hyperlipidemia | 0.07 (-1.03 to 0.88) | 0.88 |
| Diabetes | 0.82 (-0.19 to 1.83) | 0.11 |
| Tobacco use | -0.37 (-1.62 to 0.89) | 0.57 |
| Prior anticoagulant use | -0.23 (-2.21 to 1.76) | 0.82 |
| Prior antiplatelet use | 0.64 (-0.35 to 1.63) | 0.21 |
| Glasgow Coma Scale at screening | 0.20 (0.02 to 0.39) | 0.03 |
| Baseline WBC count | 0.12 (0.05 to 0.19) | 0.001 |
| ICH location Deep (vs. lobar) | -0.22 (-1.18 to 0.75) | 0.66 |
| ICH volume at stability | 0.02 (-0.01 to 0.04) | 0.24 |
| IVH volume at stability | -0.47 (-0.52 to -0.42) | <0.001 |
| End-of-treatment ICH volume | 0.03 (0.01 to 0.05) | 0.01 |
| EVD placement | -2.82 (-3.96 to -1.67) | <0.001 |
| MIS+Alteplase | -1.2 (-2.16 to -0.25) | 0.01 |
| Number of doses of study agent | -0.19 (-0.48 to 0.11) | 0.21 |
| Time from ictus to first dose of study agent | 0.003 (-0.04 to 0.05) | 0.90 |
| Time from ictus to end-of-treatment | -0.01 (-0.02 to 0.002) | 0.08 |

Abbreviations: CI, Confidence interval; WBC, white blood cell; ICH, intracerebral haemorrhage; IVH, intraventricular haemorrhage; EVD, external ventricular drain

eTable 2: Factors Associated with a Change in Intraventricular Haemorrhage Volume using variables from eTable 1 with P<0.2 for the multivariable analysis

| Model/variable | β (95% CI) | P-value ^a |
|-------------------------|-------------------------|----------------------|
| Unadjusted analysis | | |
| MIS+alteplase | -1.20 (-2.16 to -0.25) | 0.01 |
| Multivariable analysis | | |
| MIS+alteplase | -0.79 (-1.37 to -0.21) | 0.008 |
| Hispanic ethnicity | 0.24 (-0.28 to 0.76) | 0.36 |
| Diabetes | 0.28 (-0.28 to 0.84) | 0.32 |
| GCS at randomization | 0.09 (-0.02 to 0.21) | 0.12 |
| IVH volume, stability | -0.52 (-0.60 to -0.43) | <0.001 |
| Ictus to EOT time (hrs) | -0.005 (-0.01 to 0.003) | 0.23 |
| Baseline WBC | 0.14 (0.05 to 0.24) | 0.002 |
| EVD placement | 0.08 (-1.03 to 1.19) | 0.89 |

Abbreviations: EOT, end-of-treatment; ICH, intracerebral haemorrhage; IVH, intraventricular haemorrhage; WBC, white blood cell; EVD, external ventricular drain

^a p < 0.05 was considered statistically significant.

Supplemental Data Analysis:

Association between MISTIE Catheter Drainage Volume and Change in IVH and ICH

Volume

MISTIE catheter drainage volume was reported between each dose of alteplase for 31 patients. Total median drainage volume was 138 [51-304] mL; per dose of alteplase: 21.8 [14.78, 59.5] mL. Catheter drainage volume per alteplase dose was significantly correlated with change in both IVH and ICH volume from stability to EOT. (Spearman's rho = -0.49; p=0.01 and rho = -0.44; p=0.01 respectively). This is a small subset of patients, but is hypothesis-generating for the idea that enhanced catheter drainage secondary to a presumed communication with ventricular CSF could increase hematoma volume reduction in both compartments.