

IMPACT OF ULTRA/HYPER-ACUTE ADMINISTRATION OF GLYCERYL TRINITRATE ON SECONDARY OUTCOME AFTER ACUTE STROKE: A META-ANALYSIS OF INDIVIDUAL PATIENT DATA FROM RANDOMISED TRIALS

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Background

Glyceryl trinitrate (GTN) is a candidate reperfusion and hypotensive treatment for hyperacute stroke. We assessed the effect of early administration of GTN (within 6 hours) on secondary outcomes (taken at 3 months post randomisation), across two studies, ENOS-early and RIGHT, in an individual patient data meta-regression.

Methods

Secondary outcomes included disability (Barthel index, BI), quality of life (EQ-5D health status utility values, HSUV, and Visual Analogue Scale, EQ-VAS), cognition (telephone-Mini Mental state examination, t-MMSE, and the Telephone Interview Cognition Scale-modified, TICS-M) and mood (Zung Depression Scale, ZDS). Outcomes were analysed using multiple linear regression (MLR) and Mann-Whitney U test (MWU). Data are mean (standard deviation), median [interquartile range] and mean difference (MD) with 95% confidence intervals (CI).

Results

312 patients (GTN 168, no GTN 144) were randomised within 6 hours of ictus into ENOS-early (n=273) and RIGHT (39). Results from the analyses undertaken can be found in Table 1. Patients who received GTN appeared to see more improvement, across all their outcomes, than patients who did not receive GTN. This result was seen whether analysed using parametric (MLR) or non-parametric methods (MWU).

Conclusions

GTN, when given within 6 hours of ictus, appears to improve functional outcomes relating to disability, quality of life, cognition and mood. This exploratory finding is being tested prospectively in the ongoing RIGHT-2 trial.

Table 1

Outcome	GTN		No GTN		MD (95% CI)	MLR p	MWU p
	Mean (SD)/ Median [IQR]	Mean (SD)/ Median [IQR]	Mean (SD)/ Median [IQR]	Mean (SD)/ Median [IQR]			
BI	72.5 (35.4) / 85.0 [60.0, 100.0]	58.0 (41.9) / 75.0 [7.5, 95.0]	14.5 (5.9, 23.1)	0.00091	0.0020		
EQ-5D-HSUV	0.5 (0.4) / 0.7 [0.2, 0.8]	0.4 (0.4) / 0.4 [0.0, 0.8]	0.1 (0.0, 0.2)	0.032	0.036		
EQ-VAS	60.9 (29.2) / 70.0 [50.0, 85.0]	51.1 (35.2) / 60.0 [10.0, 80.0]	9.8 (2.4, 17.1)	0.0093	0.035		
t-MMSE	13.5 (6.6) / 16.5 [12.0, 18.0]	9.9 (8.0) / 13.0 [-1.0, 17.0]	3.6 (1.6, 5.5)	0.00028	0.00028		
TICS-M	19.0 (9.6) / 20.5 [14.0, 25.0]	13.4 (10.7) / 17.0 [-1.0, 21.0]	5.6 (2.6, 8.5)	0.00020	0.00053		
ZDS	53.3 (21.3) / 47.5 [37.5, 62.5]	63.9 (27.7) / 55.0 [40.0, 102.5]	-10.6 (-16.4, -4.7)	0.00041	0.0048		