

Online-Only Supplemental Data

Prehospital and intrahospital time delays in posterior circulation stroke: results from the Austrian Stroke Unit Registry

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SUPPLEMENTAL TABLES

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SUPPLEMENTAL TABLE I: Linear regression model^a of the log-transformed ODT (n=43778).

Variable	Coef.	SE	p	Minutes ^b
Intercept	4.866	0.014		130 (126 to 133)
Posterior circulation stroke	0.191	0.013	<0.001	27 (23 to 31)
Age polynomial 1 ^c	2.050	0.974	0.035	
Age polynomial 2	-6.379	0.910	<0.001	
Type of transport				
Ambulance with emergency physician	-0.247	0.011	<0.001	-28 (-31 to -26)
Private transport	0.408	0.015	<0.001	65 (60 to 71)
Secondary transport ^d	0.406	0.015	<0.001	65 (60 to 71)
NIHSS polynomial 1 ^c	-25.653	0.996	<0.001	
NIHSS polynomial 2	2.282	0.910	0.012	
NIHSS polynomial 3	10.024	0.903	<0.001	
NIHSS polynomial 4	-11.041	0.901	<0.001	
NIHSS polynomial 5	8.131	0.899	<0.001	
NIHSS polynomial 6	-3.841	0.899	<0.001	
Diabetes mellitus	0.091	0.011	<0.001	12 (9 to 15)
Atrial fibrillation	-0.089	0.011	<0.001	-11 (-14 to -8)
Year of admission polynomial	-0.008	0.002	<0.001	-1 (-1 to -1)

Coef: coefficient of model, SE: standard error of coefficients, NIHSS: national institute of health stroke scale.

^aThe overall significance of the multivariate model was tested by ANOVA, p value<0.001, coefficient of determination R²: 0.12. Reference levels for the model were: stroke localization: ACS, type of transport: *transport without emergency physician*, diabetes: *No presence of diabetes*, atrial fibrillation: *No presence of atrial fibrillation*, year of admission: 2003.

^bMinutes: retransformed coefficients calculated as: $e^{I+C} - e^I$ where I is the coefficient of the Intercept, C is the current coefficient and e is Euler's number.

^cThe variables age and NIHSS were included into the model in form of polynomials and no stratification or grouping has been applied to the variables. The digits 1-6 of the variable name represent the weights of the corresponding terms of the polynomial.

^dTransport to stroke unit via another hospital

SUPPLEMENTAL TABLE II-R: Multivariate linear regression model of the log-transformed DNT (n=10626).

Variable	Coefficient	SE	p	Minutes ^a
Intercept	4.002	0.021		55 (53 to 57)
Posterior circulation stroke	0.218	0.024	<0.001	13 (10 to 17)
Treating stroke center ^b				
Thrombolysis rate 10-20%	-0.133	0.021	<0.001	-7 (-9 to -5)
Thrombolysis rate >20%	-0.249	0.022	<0.001	-12 (-14 to -10)
Type of transport				
Ambulance with emergency physician	-0.082	0.014	<0.001	-4 (-6 to -3)
Private transport	0.224	0.031	<0.001	14 (10 to 18)
Secondary transport ^c	-0.149	0.023	<0.001	-8 (-10 to -5)
Magnetic resonance imaging	0.374	0.020	<0.001	25 (22 to 28)
NIHSS polynomial 1 ^d	-4.162	0.701		
NIHSS polynomial 2	4.202	0.821		
NIHSS polynomial 3	-1.707	0.884		
NIHSS polynomial 4	3.839	0.813		
Year of admission polynomial 1 ^d	-5.058	0.627		
Year of admission polynomial 2	1.261	0.616		
PCS x NIHSS polynomial 1	12.679	2.186		
PCS x NIHSS polynomial 2	-0.714	1.794		
PCS x NIHSS polynomial 3	-2.997	1.737		
PCS x NIHSS polynomial 4	-1.293	1.657		

SE: standard error of coefficients; NIHSS: national institute of health stroke scale, MRI: magnetic resonance imaging, mRS: modified Rankin Scale

The overall significance of the multivariate model was tested by ANOVA, p value<0.001, coefficient of determination R²=0.146; Reference levels for the model were: stroke localization: ACS, treating stroke center: *Thrombolysis rate <10%*, type of transport: *transport without emergency physician*, image modality: *CT*, year of admission: *2003*

^aMinutes: retransformed coefficients calculated as: $e^{I+C} - e^I$ where I is the coefficient of the Intercept, C is the current coefficient and e is Euler's number.

^bGrouping of stroke centers was done according to the experience (rate of rt-PA-treatment): thrombolysis rate <10%, 10-20%, >20%.

^cTransport via another hospital to a stroke unit.

^dNIHSS and year of admission were included into the model as polynomials and no stratification or grouping has been applied to the variables. The digits of the variable name represent the weight of the corresponding terms of the polynomial. Significance of the polynomial variables NIHSS and year of admission were tested by ANOVA, p value for both<0.001.

SUPPLEMENTAL TABLE III: Potential lost patients with PCS eligible for thrombolysis between 2010 and 2014.

Year	PCS ^a	rt-PA rate ^b	Patients potentially lost ^c
2010	1232	11.6%	81
2011	1322	10.7%	118
2012	1213	12.2%	85
2013	1367	9.9%	125
2014	1323	12.9%	89

^aPatients with posterior circulation stroke.

^bRate of patients with PCS treated with rt-PA.

^cPatients potentially lost given the ODT-distribution of patients with anterior circulation stroke.

SUPPLEMENTAL TABLE IV: Comparison of previous studies analyzing time-intervals in stroke patients stratified by localization.

	Number of analyzed patients		Number of centers
	ACS	PCS	
Förster et al. ³	198	30	1
Sarikaya et al. ⁵	798	95	3
Sarraaj et al. ¹¹	221	31	1
This study (All)	59086	11924	36
This study (rtPA-treated patients)	9832	1022	36