

Haemodynamic correlates of transient cognitive impairment after TIA and minor stroke: a transcranial Doppler study.

ONLINE SUPPLEMENT

Baseline			
Mean (SD)	TCI (N=82)	NCI (N=148)	p
SBP baseline	150.74 (22.13)	146.3 (22.03)	0.15
DBP baseline	80.37 (10.25)	82.43 (11.44)	0.18
EDV baseline	29.21 (8.76)	34.4 (9.32)	<0.001
MFV baseline	47.65 (11.61)	53.28 (12.83)	0.001
PI baseline	1.03 (0.22)	0.95 (0.21)	0.007
MoCA baseline	21.89 (3.25)	27.6 (1.17)	<0.001
1 month Follow-up			
SBP FU	135.95 (18.06)	130.31 (17)	0.02
DBP FU	72.73 (9.04)	73.35 (9.07)	0.62
% SBP Diff	-8.56 (14.5)	-9.77 (12.72)	0.51
% DBP Diff	-8.36 (14.31)	-10.21 (10.68)	0.27
EDV FU	31.38 (8.57)	36.74 (9.74)	<0.001
MFV FU	49.54 (11.27)	54.89 (13.39)	0.002
PI FU	0.99 (0.22)	0.9 (0.21)	0.001
%EDV Diff	12.1 (30.22)	9.64 (23.7)	0.5
%MFV Diff	6.07 (19.58)	4.61 (19.36)	0.59
MoCA FU	25.79 (2.96)	28.37 (1.61)	<0.001
MoCA Diff	3.9 (1.81)	0.77 (1.64)	<0.001
MMSE FU	26.51 (2.42)	28.59 (1.98)	<0.001

Table I: Sensitivity analysis; comparison between physiological, hemodynamic, and cognitive variables in transient cognitive impairment (TCI) vs no cognitive impairment (NCI) in TIAs and strokes only. Abbreviations: TCI = transient cognitive impairment; NCI= no cognitive impairment; FU= Follow-up; SBP= Systolic Blood Pressure (mmHg); DBP= Diastolic Blood Pressure (mmHg); EDV: End-Diastolic Velocity (cm/sec); MFV= Mean Flow Velocity (cm/sec); PI= Pulsatility Index; MoCA= Montreal Cognitive Assessment; % Diff= percent change between baseline and follow-up; MoCA Diff= MoCA score change between baseline and follow-up; MMSE= Mini Mental State Evaluation.

TCD in transient cognitive impairment

Baseline			
Mean (SD)	TCI (N=82)	PMCI (N=38)	p
SBP baseline	150.74 (22.13)	149.24 (23.71)	0.74
DBP baseline	80.37 (10.25)	80.71 (10.63)	0.87
EDV baseline	29.21 (8.76)	31.19 (10.68)	0.29
MFV baseline	47.65 (11.61)	49.38 (13.35)	0.47
PI baseline	1.03 (0.22)	1.00 (0.25)	0.61
MoCA baseline	21.89 (3.25)	23.05 (2.96)	0.06
1 month Follow-up			
SBP FU	135.95 (18.06)	132.93 (16.74)	0.39
DBP FU	72.73 (9.04)	72.96 (8.59)	0.89
% SBP Diff	-8.56 (14.5)	-9.43 (13.94)	0.76
% DBP Diff	-8.36 (14.31)	-8.61 (12.29)	0.93
EDV FU	31.38 (8.57)	35.04 (12.42)	0.07
MFV FU	49.54 (11.27)	52.26 (14.47)	0.26
PI FU	0.99 (0.22)	0.98 (0.25)	0.62
%EDV Diff	12.1 (30.22)	15.48 (27.32)	0.57
%MFV Diff	6.07 (19.58)	8.07 (23.49)	0.63
MoCA FU	25.79 (2.96)	22.87 (3.5)	<0.001
MoCA Diff	3.9 (1.81)	-0.18 (1.66)	<0.001
MMSE FU	26.51 (2.42)	25.08 (3)	0.007

Table II: sensitivity analysis; comparison between physiological, hemodynamic, and cognitive variables in transient cognitive impairment (TCI) vs persistent mild cognitive impairment (PMCI), including TIAs and strokes only. Abbreviations: PMCI= persistent mild cognitive impairment; TCI= transient cognitive impairment; FU= Follow-up; SBP= Systolic Blood Pressure (mmHg); DBP= Diastolic Blood Pressure (mmHg); EDV: End-Diastolic Velocity (cm/sec); MFV= Mean Flow Velocity (cm/sec); PI= Pulsatility Index; MoCA= Montreal Cognitive Assessment; % Diff= percent change between baseline and follow-up; MoCA Diff= MoCA score change between baseline and follow-up; MMSE= Mini Mental State Evaluation.

TCD in transient cognitive impairment

Age <60			
Mean /SD	TCI (N=19)	NCI (N=71)	p
SBP baseline	138.13 (12.93)	136.64 (21.11)	0.77
EDV baseline	42.61 (8.56)	40.01 (7.69)	0.2
MFV baseline	63.22 (12.6)	58.47 (11.11)	0.11
PI baseline	0.8/0.08)	0.82/0.11	0.49
%EDV Diff	2.66 (16.15)	3.96 (18.49)	0.78
MoCA Diff	3.79 (1.31)	0.89 (1.6)	<0.001

60≤Age ≤70			
Mean /SD	TCI (N=23)	NCI (N=57)	p
SBP baseline	147.84 (18.5)	145.39 (20.54)	0.62
EDV baseline	30.1 (6.65)	34.81 (8.59)	0.02
MFV baseline	49.09(11.03)	53.76 (13.53)	0.146
PI baseline	0.97 (0.16)	0.92 (0.16)	0.29
%EDV Diff	10.01 (20.57)	10.83 (22.07)	0.87
MoCA Diff	3.49 (1.41)	0.51 (1.59)	<0.001

Age >70			
Mean /SD	TCI (N=56)	NCI (N=54)	p
SBP baseline	156.57 (23.07)	155.1 (22.09)	0.73
EDV baseline	25.95 (7.11)	28.69 (6.86)	0.04
MFV baseline	44.05 (9.48)	48.37 (10.7)	0.02
PI baseline	1.11 (0.21)	1.07 (0.24)	0.46
%EDV Diff	16.44 (34.17)	12.07 (25.56)	0.45
MoCA Diff	4.16 (2.01)	0.59 (2.01)	<0.001

Table III: age-stratified comparison between physiological, hemodynamic, and cognitive variables in transient cognitive impairment (TCI) and no cognitive impairment (NCI). Abbreviations: TCI= transient cognitive impairment; NCI = no cognitive impairment; SBP= Systolic Blood Pressure (mmHg); EDV: End-Diastolic Velocity (cm/sec); MFV= Mean Flow Velocity (cm/sec); PI= Pulsatility Index; % Diff= percent change between baseline and follow-up; MoCA Diff= MoCA score change between baseline and follow-up.

TOAST classification N (%)	PMCI (N=38)	TCI (N=81)	NCI (N=148)	P
CE	5 (12.9)	15 (17.9)	32 (21.5)	0.89
LAD	2 (6.5)	6 (7.5)	11 (7.5)	
SVD	6 (16.1)	12 (14.9)	15 (10.3)	
Other/Ukn/Mult/Und	25 (64.5)	49 (59.7)	90 (60.8)	

Table IV: TOAST classification for Strokes and TIAs included in the analysis (Other neurological events not included in etiological classification). Abbreviations: PMCI = persistent mild cognitive impairment; TCI = transient cognitive impairment; and NCI = no cognitive impairment; TOAST= Trial of ORG 10172 in Acute Stroke Treatment; CE= cardio-embolic; LAD= Large Artery Disease; SVD= Small Vessel Disease; Ukn= Unknown etiology; Mult= Multiple etiology; Und= Undetermined etiology. Numbers for each group are for ischemic strokes and TIAs only.

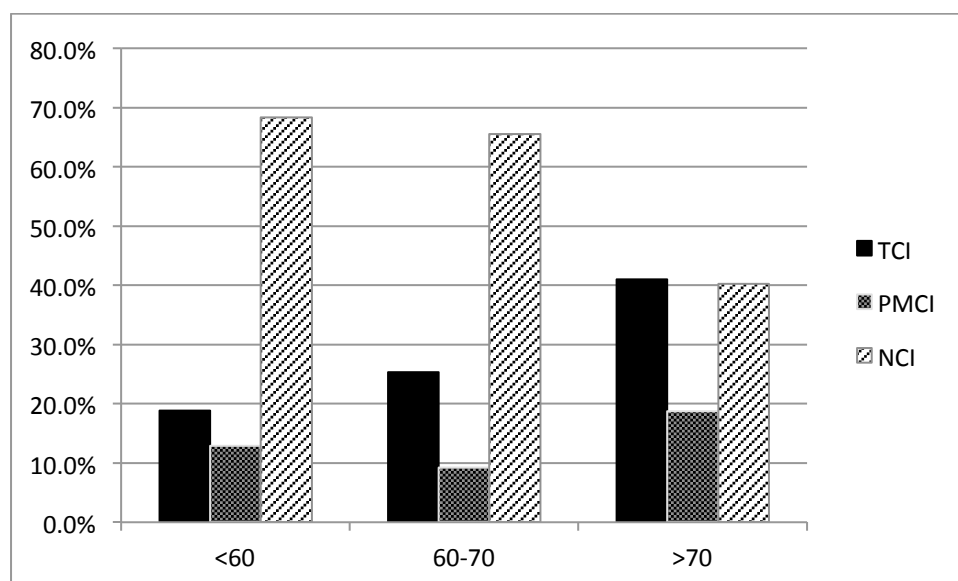


Figure A: Age-stratified proportion of patients with transient cognitive impairment (TCI), persistent mild cognitive impairment (PMCI), and no cognitive impairment (NCI).

TCD in transient cognitive impairment

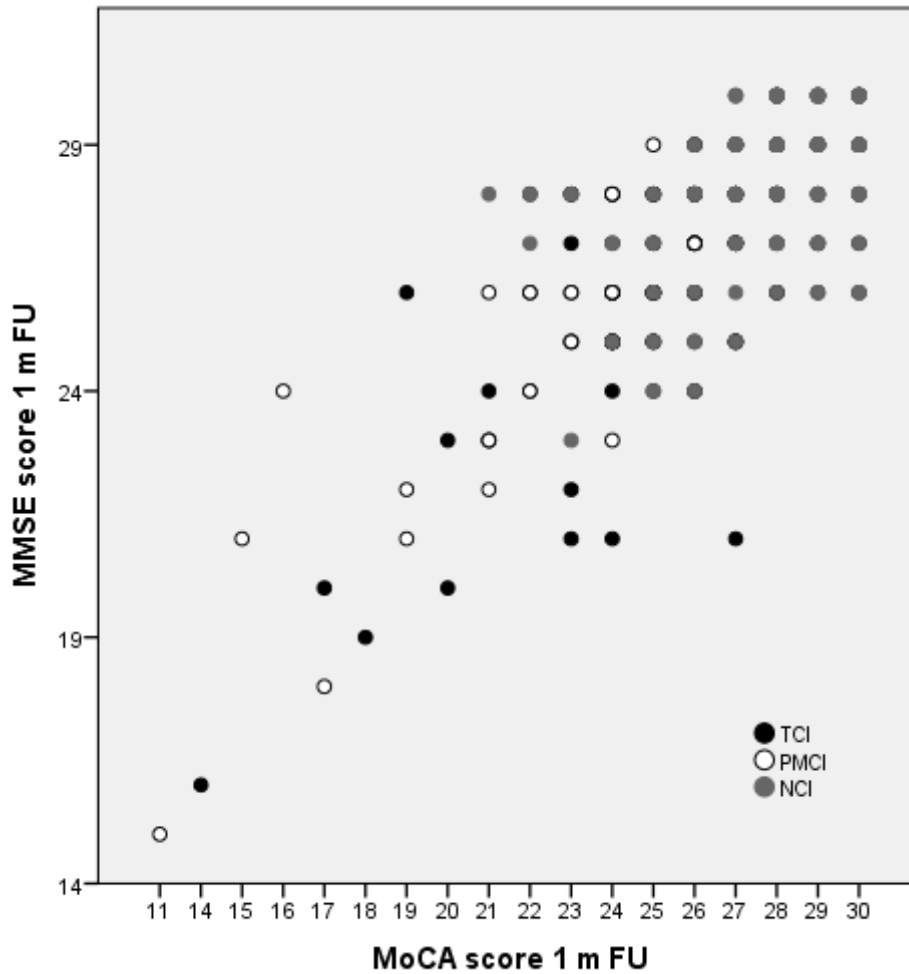


Figure B2: Correlation between MoCA and MMSE score in patients with transient cognitive impairment (TCI) according to the MoCA definition (black dots), persistent mild cognitive impairment (PMCI) (white dots), and no cognitive impairment (NCI) (grey dots) at one month follow-up visit. The R coefficient is 0.795, $p < 0.001$.