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P116 Post-stroke White Coat Hypertension/Effect is Associated with Greater Arterial Stiffness

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ABSTRACT

Objective: White coat hypertension/effect (WCH/E) describes an elevated clinic blood pressure (BP) with normal daytime ambulatory BP (ABPM) values. It is not clear whether WCH/E is associated with adverse vascular risk. This study aimed to determine the relationship between WCH/E and arterial stiffness in a cohort of patients who had a transient ischaemic attack (TIA) or lacunar stroke (LS).

Design and Method: The Arterial Stiffness In Lacunar Stroke and TIA (ASIST) study recruited 96 patients, aged over 40 years old, with a confirmed diagnosis of TIA or LS in the preceding 14 days. Patients were grouped by BP. Thirty-four patients were excluded ($n = 6$ declined ABPM, $n = 3$ masked hypertension and $n = 25$ sustained hypertension). Thirty-two patients with normal BP (clinic BP < 140/90 mmHg and day-time ABPM < 135/85 mmHg), and 30 patients with WCH/E (clinic BP > 140/90 mmHg and day-time ABPM < 135/85 mmHg) were recruited. Arterial stiffness was measured using carotid-femoral pulse wave velocity (PWV), (Complior®, ALAM Medical) and carotid-ankle vascular index (CAVI), (VaSera VS-1500 N®, Fukuda Denshi).

Results: Compared to patients with normal BP, patients with WCH/E were older, had a higher body mass index (BMI) and higher arterial stiffness measured by CAVI (10.3 ± 1.3 vs 9.4 ± 1.7, $p = 0.027$), and PWV (11.9 ± 3.0 vs 9.6 ± 2.3 ms^{-1}, $p = 0.002$). The WCH/E cohort had more lacunar strokes ($p = 0.039$).

Conclusion: In this population of post-stroke patients, those with WCH/E had greater arterial stiffness and a higher prevalence of lacunar stroke. These results suggest that WCH/E is associated with adverse cardiovascular risk.

	Normotension ($N = 32$)	WCH/E ($N = 30$)	Statistical significance
Male, *n* (%)	21(66)	22(73)	0.511
Age (years)	69.9 ± 11.5	75.7 ± 9.3	0.033
BMI (kg/m^2)	25 ± 4	28 ± 4	0.014
Anti-hypertensive use, *n* (%)	19(59)	23(77)	0.146
Clinic systolic BP (mmHg)	125 ± 9	155 ± 13	<0.001
Clinic diastolic BP (mmHg)	75 ± 7	81 ± 8	0.003
Daytime systolic ABPM (mmHg)	114 ± 10	121 ± 10	0.007
Daytime diastolic ABPM (mmHg)	73 ± 7	72 ± 7	0.586
CAVI	9.4 ± 1.7	10.3 ± 1.3	0.027
PWV (ms^{-1})	9.6 ± 2.3	11.9 ± 3.0	0.002
Stroke type			
TIA, *n* (%)	25(78)	16(53)	0.039
Lacunar, *n* (%)	7(22)	14(47)	

Data expressed as mean ± standard deviation or number (percentage). Significance determined by *t*-test. Chi-squared used for anti-hypertensive use, gender and stroke type.

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