HIGH BLOOD PRESSURE MAY BE ASSOCIATED WITH BETTER COLLATERALS BUT STILL POOR OUTCOMES IN ACUTE ISCHEMIC STROKE PATIENTS

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■ Background and Purpose

The relationship between the post-stroke blood pressure, collaterals and functional outcome in acute ischemic stroke (AIS) patients is still controversial. The study is to explore the association of post-stroke blood pressure with collaterals and functional outcome in AIS patients with large vessel occlusion.

■ Methods

We enrolled patients with large vessel occlusion who had symptom onset within 6 hours and who had complete baseline CT angiography, CT perfusion, clinical profiles and follow-up data.

Collaterals: The volume of delay time (DT)>3s and DT>6s lesion on CT perfusion.

Poor functional outcome: mRS of 3-6 at 3 months.

■ Results

A total of 126 patients were enrolled at Huashan Hospital from 2011 to 2017. With every increment of 10mmHg systolic blood pressure (SBP), the odds of a poor functional outcome increased by 21% (age and sex adjusted, P=0.04, Table 1). However, with every increment of 10mmHg diastolic blood pressure (DBP), the volume of DT>6s lesion downsized by 7.6mL (multivariate adjusted, P=0.026, Table 2).

■ Conclusion

Table 1. The association between blood pressure and a poor functional outcome at 3 month

	Unadjusted			Age- and Sex-Ajusted			Multivariate-Ajusted*		
	OR	95%CI	p	OR	95%CI	p	OR	95%CI	p
SBP10mmHg	1.20	1.02-1.42	0.03	1.21	1.01-1.46	0.04	1.15	0.91-1.45	0.26
DBP10mmHg	1.03	0.77-1.40	0.82	1.25	0.87-1.78	0.23	1.34	0.81-2.24	0.26
MBP10mmHg	1.20	0.92-1.57	0.18	1.33	0.98-1.79	0.07	1.30	0.87-1.96	0.21

*Ajusted with age, sex, baseline glucose, baseline NIHSS, stroke history, antiplatelet drug history, DT>3s ischemic core volume DT>3s lesion volume,DT>6s lesion volume, hemorrhagic transformation
OR: Odds Ratio; 95%CI:95% Confidential Interval

Table 2.The association among DBP, DT>6s lesion volume and DT>6s/DT>3s lesion volume ratio

DBP10mmHg	Unstandardized linear	Standardized linear regression	p
	regreassion coefficient(95%CI)	coefficient	
DT>6s *	-7.56(-14.89 — -0.24)	-0.24	0.04
DT>6s/DT>3s**	-0.03(-0.06 — -0.01)	-0.22	0.01

*Adjusted with baseline NIHSS, congestive heart failure history, dyslipidemia history and antiplatelet drug history
**Adjusted with baseline NIHSS and dyslipidemia history
95%CI:95% Confidence Interval