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Background: In our previous study, patients with uncontrolled blood pressure had a lower incidence of coronary artery spasm (CAS) than those with controlled blood pressure. However, it is unknown whether hypertensive patients with target-organ damage have a lower incidence of CAS. **Methods:** Total 1397 hypertensive patients were enrolled without significant coronary artery disease (CAD) who underwent acetylcholine (Ach) provocation test. Significant CAS was defined as transient luminal narrowing (>70%) by intracoronary Ach injection. Patients were categorized into two groups based on the presence of LVH (the non-LVH group: n= 1215, the LVH group: n= 182). **Results:** After propensity score matching analysis, 537 patients without LVH were matched with 179 patients with LVH. Baseline characteristics and angiographic findings did not differ between the two groups. Compared with non-LVH group, the incidence of CAS was lower in the LVH group (Table). **Conclusions:** In this study, hypertensive patients with LVH had lower incidence of CAS, suggesting that hypertensive patients with LVH may have autonomic dysfunction or reduced vascular smooth muscle hyper-reactivity.

Table. Ach Provocation Test Results between patients without LVH and with LVH

Variables, N (%)	Entire patients		P value	Matched patients		P value
	Non-LVH (n=1215)	LVH (n=182)		Non-LVH (n=537)	LVH (n=179)	
Myocardial bridge	208 (17.1)	27 (14.8)	0.442	83 (15.4)	23 (13.9)	0.630
Coronary artery spasm	707 (58.3)	89 (48.9)	0.018	320 (59.5)	88 (49.1)	0.015
EKG change	52 (4.2)	7 (3.8)	0.786	24 (4.4)	7 (3.9)	0.750
ST-segment elevation	14 (1.1)	5 (2.7)	0.090	7 (1.3)	5 (2.7)	0.187
ST-segment depression	17 (1.3)	2 (1.0)	> 0.999	8 (1.4)	2 (1.1)	> 0.999
T-wave inversion	12 (0.9)	1 (0.5)	> 0.999	6 (1.1)	1 (0.5)	0.687
Atrial fibrillation	10 (0.8)	1 (0.5)	> 0.999	3 (0.5)	1 (0.5)	> 0.999
AV Block	350 (28.8)	43 (23.6)	0.147	140 (26.0)	42 (23.4)	0.488
Chest pain	529 (44.3)	69 (37.3)	0.076	228 (42.0)	67 (37.4)	0.273

Ach, acetylcholine; LVH, left ventricular hypertrophy