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Background: It is largely unknown whether the waist circumference is associated with coronary artery spasm (CAS) with the intracoronary acetylcholine (Ach) provocation test. **Methods:** A total 876 consecutive patients without significant coronary artery disease (CAD) who underwent the Ach provocation test by injecting incremental doses of 20, 50, 100 μ g into the left coronary artery were enrolled. The Ach provocation test results and its associated parameters were compared between the elevated WC group (M:>90cm, F:>85cm, n=222) and control group (n=654). **Results:** The baseline clinical characteristics showed that incidence of hypertension (55.9% vs 36.7%, $p<0.01$) to be higher in the elevated WC group than control group. After Ach injection, the rate of positive provocation test results and associated parameters were similar between the two groups with a trend toward less episode of ischemic chest pain during the Ach provocation test in the elevated WC group (Table). **Conclusion:** In our study, Elevated WC patients did not show any difference in Ach induced CAS and associated clinical parameters when compared with the control patients.

Table. Acetylcholine provocation test results

Variables, n(%)	Elevated Waist Circumference (n=222)	Control (n=654)	P value
Waist circumference (cm)	31.8 \pm 2.3	23.8 \pm 2.7	0.01
Ach Provocation (+)	112 (51.1)	341 (53.1)	0.63
ST change	10 (4.5)	13 (2.1)	0.10
Chest pain	76 (34.2)	252 (38.5)	0.21
(+) Provocation to Ach dose			
A1 (20 μ g)	9 (4.1)	18 (2.8)	0.36
A2 (50 μ g)	46(21.1)	155 (24.2)	0.35
Spasm after Ach injection			
Diffuse	88 (39.6)	276 (42.2)	0.52
Severe spasm (>70%)	60 (52.6)	169 (48.7)	0.71