THE EFFECT OF ANTIHYPERTENSIVE ON THE EXPRESSION OF TRPC3 AND TRPC6 IN THE AORTA IN SPONTANEOUSLY HYPERTENSIVE RATS

Liao Xueyan, Chen Ming, Yu Dongmei  Department of Cardiology of The first Affiliated Hospital, Chongqing Medical University, Chongqing, China
Objective To investigate whether ramipril, valsartan and amlodipine play a role in expression of transient receptor potential canonical 3 and 6 channel (TRPC3, TRPC6) at the aorta in spontaneously hypertensive rats (SHR).

Methods SHRs were randomly divided into four groups: ramipril group (n=6), valsartan group (n=6), amlodipine group (n=6) and no drug group (n=6). Wistar-Kyoto (WKY) rats were used as control group (n=6). After treated for 4 weeks, the rats were examined for blood pressure, the mRNA expression of TRPC3 and TRPC6 were determined by RT-PCR and the protein level of TRPC3 and TRPC6 by immunohistochemistry and Western Blot.

Results TRPC3 and TRPC6 increased in aorta from SHR compared with normotensive WKY rats (p<0.05). In drug groups, the systemic blood pressure and the mRNA and protein expression of TRPC3 decreased (p<0.05), but the expression of TRPC6 had no change.

Conclusion In SHR rats, increased expressions of TRPC3, TRPC6 channels mRNA and protein in the vasculature may play a role in elevated blood pressure. Ramipril, valsartan and amlodipine possibly reduced blood pressure partly by inhibition of TRPC3 expression.