GW23-e1137  EXPRESSION OF LYMPHOCYTE KCa3.1 AND CYTOKINE IN SHR

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Objectives to research the expression of intermediate-conductance Ca\(^{2+}\)-activated K\(^+\) channel (KCa3.1), TNF-\(\alpha\) mRNA and protein in lymphocyte derived from spontaneously hypertensive rat (SHR).

Methods Take SHR and Wistar rats as experimental animals, to separate peripheral blood lymphocytes in rats, using Real-time PCR and Western blot technique were used to detect the express of KCa3.1, TNF-\(\alpha\) in SHR lymphocytes.

Results
(1) In SHR, the expression of KCa3.1 gene was significantly higher in lymphocytes (1.3025±0.2117 vs 0.4475±0.2012; \(p<0.05\)) compared with Wistar rats. The expression levels of TNF-\(\alpha\) mRNA in the SHR lymphocytes were significantly increased compared with the control group (1.4257±0.1317 vs 0.3836±0.1626; \(p<0.05\)).
(2) KCa3.1, TNF-\(\alpha\) protein expression were also increased in SHR than in control (\(p<0.05\)).

Conclusions The lymphocyte KCa3.1, TNF-\(\alpha\) expression are upregulated in SHR suggesting KCa3.1 channel may contribute to the development of hypertension by lymphocyte activation.