[gw22-e0768] **INVOLVEMENT OF THE STAT3-TH17 AXIS IN VIRAL MYOCARDITIS INDUCED BY COXSACKIEVIRUS B3**

Yan Yuluan, Yan Yuluan, Pang Yu, Wu Weifeng, Yang Fan, Kong Qing, Huang YanlanThe First Affiliated Hospital Of Guangxi Medical University, Guangxi, China

10.1136/heartjnl-2011-300867.70

Objective This study was designed to explore whether the STAT3-Th17 axis is involved in the pathology of viral myocarditis (VMC) induced by Coxsackievirus B3 (CVB3).
Methods We induced VMC with male BALB/c mice by CVB3 intraperitoneal injection (n=48), mice intraperitoneal with phosphate-buffered solution (PBS) were taken as controls (n=30). STAT3 mRNA expression in the myocardium of mice was assessed by semi-quantitative RT-PCR. Phosphorylated-STAT3 (p-STAT3) protein expression in the myocardium and spleens was evaluated by Western-blot. Splenic CD4+T cells of VMC mice were isolated by immunomagnetic beads and cultured in vitro for 48 h with S3I-201(a selective STAT3 inhibitor), p-STAT3 protein expression, the percentages of Th17 cells, IL-17 mRNA expression, IL-17 protein level in supernatants in the cultured CD4+T cells were detected by Western-blot, flow cytometric analysis, semi-quantitative RT-PCR, enzyme-linked immunosorbent assay, respectively.
Results The expression of STAT3 mRNA in myocardium and p-STAT3 protein expression in myocardium and spleen tissues in VMC group increased significantly from 1 to 6 weeks after CVB3 injection, the highest levels were observed on the fourth week. The expression of p-STAT3 protein and Th17 cells proliferation in cultured CD4+ T cells were greatly inhibited by administration of S3I-201 (200 μM, 500 μM), correspondingly, IL-17 mRNA expression and IL-17 protein level in the supernatants decreased dramatically.
Conclusions The STAT3-Th17 axis is involved in the pathology of VMC induced by CVB3. Blocking the STAT3-Th17 axis by a selective STAT3 inhibitor S3I-201 may be a potential therapeutic target for VMC.