

补中益气汤对甲状腺功能减退大鼠心肌细胞凋亡及 Fas, FasL和 Caspase-3蛋白表达的影响

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**中文摘要:**目的:研究补中益气汤对甲状腺功能减退(甲减)大鼠心肌细胞凋亡及Fas,FasL和Caspase-3蛋白表达的影响。方法:采用Kolaja法制备大鼠甲状腺功能减退模型。健康Wistar大鼠120只随机分成正常对照组、模型组、补中益气汤组( $18.9\text{ g} \cdot \text{kg}^{-1}$ )、左旋甲状腺素钠L-T4组( $9.45\text{ }\mu\text{g} \cdot \text{kg}^{-1}$ ),各组灌胃给药56 d。光镜和电镜下观察心肌形态学和超微结构变化,TUNEL法检测心肌凋亡细胞,免疫组化检测凋亡相关基因蛋白Fas,FasL,Caspase-3的表达,ELISA法测定血清促甲状腺激素(TSH),放射免疫分析法测定血清总三碘甲状腺原氨酸(TT3)及总甲状腺素(TT4)。结果:与正常组相比,模型组心肌细胞凋亡指数及Fas,FasL,Caspase-3的表达均达高峰,心肌细胞结构损伤严重,经治疗后补中益气汤组( $12.10 \pm 0.73$ )和L-T4组( $29.26 \pm 2.10$ )的心肌细胞凋亡指数降低,Fas,FasL及Caspase-3的阳性表达均下降,且补中益气汤组的疗效优于L-T4组( $P < 0.05$ )。结论:甲减引起心肌细胞凋亡增多,Fas,FasL, Caspase-3表达升高,而补中益气汤可明显降低心肌细胞凋亡指数,下调Fas,FasL及Caspase-3的表达,说明补中益气汤对甲减的心肌损害有干预保护作用。

中文关键词:[补中益气汤](#) [甲状腺功能减退](#) [细胞凋亡](#) [Fas](#) [FasL](#) [Caspase-3](#)

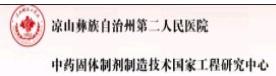
## Influence of Buzhong Yiqi Tang on Myocardial Apoptosis and Expression of Proteins Fas, FasL and Caspase-3 in Rats of Hypothyroidism

**Abstract:**Objective: To study the effect of Buzhong Yiqi Tang(tonifying middle-Jiao and Qi treatment) on myocardial apoptosis and expression of proteins Fas, FasL and Caspase-3 in hypothyroid rats. Method: The rat of hypothyroidism models were prepared by Kolaja method. Healthy wistar rats were randomly divided into normal control group, model group, Buzhong Yiqi Tang group, Letrox(L-T4)group. The morphological and ultrastructural changes were observed under optical microscope and electronic microscope respectively. Apoptotic cells were measured by TdT-mediated dUTP nick end labeling (TUNEL) method. The expression of apoptosis-related proteins Fas, FasL and Caspase-3 were detected with immunohistochemical methods. TSH was measured by ELISA, Total 3 Triiodothyronine(TT3)and Total 4 Triiodothyronine (TT4) were measured by RIA; detect the iodine in urine. Result: Compared with control group, the apoptosis index and the expression of Fas, FasL and Caspase-3 reached the highest level in the model group, myocardial cell injured severely. After treatment the apoptosis index of Buzhong Yiqi Tang group( $12.10 \pm 0.73$ ) and L-T4 group( $29.26 \pm 2.10$ ) decreased, the expression of Fas, FasL and Caspase-3 also reduced, and the effectiveness of Buzhong Yiqi Tang group was better( $P < 0.05$ ). Conclusion: Hypothyroidism causes increase of myocardial cell apoptosis, heightened expression of Fas, FasL and Caspase-3, while Buzhong Yiqi Tang might decrease the myocardial apoptosis and lower the expression of protein Fas, FasL and Caspase-3 significantly, it indicated that Buzhong Yiqi Tang has protective action on myocardial injury of hypothyroidism.

keywords:[Buzhong Yiqi Tang](#) [hypothyroidism](#) [cell apoptosis](#)

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