Influence of Xiaochaihu Decoction on Myocardial Cytopathic Effect and Enzyme-histochemistry in Myocarditis in Vitro

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Objective: To evaluate the therapeutic effects of a traditional medicine Xiaochaihu Decoction on viral myocarditis. Methods: Newborn rat myocardial cell cultures were infected with Coxsackievirus B3 (CVB3) and divided into two groups. One group was treated with Xiaochaihu Decoction while the others acted as controls. Cytopathic changes of the myocardial cells in the two groups were compared at 24, 48, 72, and 96 hours after infection. The two groups were also compared for the Cytochrome C Oxidase (CCO) activities at these time points, using enzyme-histochemical method and computerized microphotography. Results: In the controls, progressive cytopathic changes were observed since 24h after infection, which was associated with a progressive decline in CCO activities. In the Xiaochaihu Decoction-treated group, the cells exhibited cytopathic changes and decrease in CCO activities which were also first noticed at 24h but to a much lesser extent than those in the controls. The cells however recovered quickly to regain normal morphology and near normal CCO activities. Conclusion: The findings suggested that Xiaochaihu Decoction has beneficial effects on myocardial cells infected by Coxsackievirus in vitro. (HK J Paediatr (new series) 2003;8:133-137)

Key words: Coxsackievirus B3 (CVB3); Cytochrome C Oxidase (CCO); Cytopathic Effect (CPE); Traditional Chinese Medicine (TCM)