



Influence of paeoniflorin on intracellular calcium ion concentration in the sphincter of Oddi of hypercholesterolemic rabbits

F. Wang¹, C.-M. Wang², J.-D. Liu² and Y.-T. Wang²

¹Department of Physical Examination,
The First Affiliated Hospital of Dalian Medical University, Dalian, China

²Department of General Surgery,
The First Affiliated Hospital of Dalian Medical University, Dalian, China

Corresponding author: C.-M. Wang
E-mail: changmiaowang@126.com

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ABSTRACT. This study aimed to investigate the influence of hypercholesterolemia (HC) on intracellular calcium ion concentration in the sphincter of Oddi (SO) of rabbits and the influence of paeoniflorin on intracellular calcium ion concentration in the hypercholesterolemic rabbit SO. Sixteen purebred New Zealand rabbits were randomly divided into two groups: the control group and the HC model group (8 rabbits in each group). The control group was fed standard diet. The HC group was fed standard diet plus cholesterol for a total of 8 weeks to induce and establish the rabbit HC model. The SO segment of HC rabbits was taken and enzyme treated to obtain SO cells. After primary culture, immunohistochemical analysis was performed. Fluo-3/AM was used to load SO cells, and then intracellular calcium ion concentration was determined by confocal microscopy. Intracellular calcium ion in the SO of the HC group was higher than that of the normal group; intracellular calcium ion in the HC rabbit SO of the paeoniflorin group was lower than that of the control group, where the paeoniflorin effect

was greater with higher concentrations. High cholesterol caused an increase in intracellular calcium ion concentration in the rabbit SO, and paeoniflorin can reduce intracellular calcium ion concentration in the HC rabbit SO in a concentration-dependent manner.

Key words: Paeoniflorin; Cholesterol; Sphincter of Oddi; Intracellular calcium ion concentration