

Effects of tetrandrine and verapamil on fibroblastic growth and proliferation

Xue-Song Liu, Ding-Guo Li, Han-Ming Lu, Qin-Fang Wu

Xue-Song Liu, Ding-Guo Li, Han-Ming Lu, Qin-Fang Wu, Research Laboratory of Digestive Diseases, Xinhua Hospital, Shanghai Second Medical University, Shanghai 200092, China

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Abstract

AIM: To investigate the effect of tetrandrine (Tet) and verapamil (Ver) on liver fibrosis by evaluating their effects on the growth and proliferation of fibroblasts.

METHODS: Flow cytometry and imaging analysis were used to study the effects of combined and individual treatment of Tet and Ver on fibroblastic proliferation *in vitro*. Untreated control cells were used

for comparison.

RESULTS: Compared to untreated fibroblasts, those treated with both Tet and Ver showed higher percentages of cells in the G₁ and G₂+M phase in the cell cycle of 3T6 fibroblasts ($P < 0.01$) and markedly elevated protein content, while those treated with Tet only showed significantly lower intracellular RNA content (1.5-2.0 μg , $P < 0.01$) and those treated with Ver only showed lower intracellular DNA content (15-20 μg , $P < 0.01$).

CONCLUSION: The inhibitory action of Tet and Ver on fibroblastic growth and proliferation might be responsible for the antifibrotic effects of these medications in liver fibrosis.

Key words: Tetrandrine/pharmacology; Verapamil/pharmacology; Fibroblasts/drug effects; Liver cirrhosis/drug therapy

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