



Effects of tetrandrine and verapamil on fibroblastic growth and proliferation

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Author contributions: All authors contributed equally to the work.

Original title: *China National Journal of New Gastroenterology* (1995-1997) renamed *World Journal of Gastroenterology* (1998-).

Received: September 22, 1996
Revised: January 31, 1997
Accepted: March 1, 1997
Published online: June 15, 1997

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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Liu XS, Li DG, Lu HM, Xu QF. Effects of tetrandrine and verapamil on fibroblastic growth and proliferation. *World J Gastroenterol* 1997; 3(2): 68 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v3/i2/68.htm> DOI: <http://dx.doi.org/10.3748/wjg.v3.i2.68>

S- Editor: Filipodia L- Editor: Jennifer E- Editor: Liu WX



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ISSN 1007-9327

