

Effect of amygdalin on proliferation of rat hepatic fat-storing cells and collagen production *in vitro*

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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: August 25, 1996
Revised: January 31, 1997
Accepted: March 1, 1997
Published online: June 15, 1997

Abstract

AIM: To study the anti-fibrotic mechanism of amygdalin, a component of *Semen Persicae*, on fat-storing cells (FSC).

METHODS: Livers of normal adult rats were perfused with Pronase E and collagenase *in situ*. FSC were isolated by centrifugation with 11% Metrizamide. The subcultured FSC were incubated with 10^{-4} - 10^{-8} mol/L amygdalin for 72 h, and then FSC proliferation and collagen

production were assayed, respectively.

RESULTS: Low doses of amygdalin reduced incorporation of L-[3 H]-thymidine into FSC and L-[3 H]-proline into secreted collagenase-sensitive proteins and cell layer-associated collagenase-sensitive proteins. The strongest effects were seen for the 10^{-8} mol/L dose of amygdalin, which inhibited the proliferation of FSC by 25.0%, and decreased collagen production in medium and cell layer by 24.2% and 26.8%, respectively.

CONCLUSION: An anti-fibrotic mechanism of amygdalin is to inhibit the proliferation and collagen production of active FSC.

Key words: Amygdalin; Pharmacology; Liver; Drug effects; Cirrhosis; Drug therapy; Collagen; Biosynthesis

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Xu LM, Liu C, Liu P. Effect of amygdalin on proliferation of rat hepatic fat-storing cells and collagen production *in vitro*. *World J Gastroenterol* 1997; 3(2): 103 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v3/i2/103.htm>
DOI: <http://dx.doi.org/10.3748/wjg.v3.i2.103>

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



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ISSN 1007-9327

