The Preventative Effect of Saffron Against Liver Cancer

Author
Cock, Ian Edwin

Published
2012

Journal Title
Pharmacognosy Communications

DOI
https://doi.org/10.5530/pc.2012.3.16

Copyright Statement
Copyright 2012 Phcog.net. The attached file is reproduced here in accordance with the copyright policy of the publisher. Please refer to the journal's website for access to the definitive, published version.

Downloaded from
http://hdl.handle.net/10072/51122
Looking Back

This occasional section within the journal surveys visions and achievements, often not on the main track of the developing biomedical sciences, but all relating to discoveries and developments of medicinals – both ancient and modern. What they have in common, in one way or another, is providing further background and glances around the edges of the core discipline of pharmacognosy, as it has been and continues to evolve within our times.

The Preventative Effect of Saffron Against Liver Cancer

I.E.Cockab*

aBiomolecular and Physical Sciences, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, Australia.
bEnvironmental Futures Centre, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, Australia.

A recent study in the journal Hepatology[1] has demonstrated the chemopreventative effect of *Crocus sativus* (saffron) in decreasing hepatocellular cancer (HCC) induced by diethylnitrosamine (DEN) in laboratory rats. This is a significant finding as HCC is one of the most prevalent cancers worldwide in humans. HCC is of particular concern for individuals suffering from hepatitis B or C, those with iron overload (such as in haemochromatosis) or with fatty liver disease. Alcohol abuse, cigarette smoking and exposure to carcinogens in some cosmetics and foods may also increase the incidence of HCC. The study showed that saffron has dual effects, blocking cellular proliferation, and stimulating apoptosis. Specifically, saffron pretreatment was found to block the elevation of γ-glutamyl transpeptidase, alanine amino transferase and α-fetoprotein, each of which indicate hepatic damage. Saffron pre-treatment also decreased the levels of factors involved in tumor progression including Ki-67, cyclooxygenase 2, nitric oxide synthase, nuclear factor Kappa Bp65 and phosphorylated tumor necrosis factor receptor in DEN treated rats, in comparison to rats not receiving saffron pretreatment. This study was inspired by previous studies that have demonstrated antioxidant[2] and anti-inflammatory[3] properties of saffron which indicated its potential as a potential anticancer agent. The research team is continuing its studies to determine the anticancer mechanism of saffron in preventing HCC.

REFERENCES


*Correspondence:
Tel.: +61 7 37357637; fax: +61 7 37355282
E-mail: editor@phcogcommn.org, I.Cock@griffith.edu.au
DOI: 10.5530/pc.2012.3.16