The Preventative Effect of Saffron Against Liver Cancer

I.E. Cockab*

*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

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