



Hepatology Highlights

Claudio Tiribelli¹

Black bean extract ameliorates liver fibrosis in rats with CCl₄-induced injury by Alberto Gabriel López- Reyes *et al.*

Liver fibrosis at different stages, and in particular its final, possibly irreversible step of cirrhosis, is a major clinical problem in hepatology. It is becoming more and clearer that fibrosis is not a one way process but rather, a balance between deposition and removal of collagen. This makes the possibility to reduce the former and/or increase the latter an attractive option for a future causative treatment of cirrhosis. In this provocative paper López- Reyes and colleagues investigate the effect of the extract of black beans in the modulation of liver injury occurring after long term administration of carbon tetrachloride in the rat. Animal were administered for 8 weeks with CCl₄ either alone or together with the extract obtained from the Perla black bean, and fibrosis was assessed at the end of the treatment. Surprisingly, and interestingly, black bean extract significantly reduced hepatic fibrosis by 20%, and this was associated with a down-regulation of the expression of the gene encoding for type I and IV collagen. Since comparable results were observed with quercetin, a known antioxidant compound, the conclusion was reached that the beneficial effects of the black bean extract was due

to its antioxidant capability. This is not surprising since beans contain elevated concentration of polyphenols, such as flavonoids and isoflavonoids, with substantial antioxidant properties. Although caution should be taken in extrapolate results obtained in rats to the much more complex animal model which is man, this study raises several interesting points such as the importance of the redox state in different disease, liver fibrosis included. This issue has been only recently acknowledged but more and more evidence is accumulating showing the key importance of an imbalance in the redox state in several disorders. It is easily predictable that this topic will keep researchers and clinicians busy in the future. The second relevant issue is the importance of the diet in preventing or eliciting liver diseases. Black beans are very popular in Mexican as well as in all the Central America cuisine, and they are a key food for these populations since the ancient times of Aztecs and Mayas. It would be interesting to correlate the amount of beans consumed by different ethnic groups and the prevalence of liver fibrosis/cirrhosis although this study will be spoiled by the concomitant use of pro-fibrotic foods such as alcohol (tequila as a good example). At this time suffices to say that like coffee, black beans are apparently good for our liver. Therefore, we are all invited to enjoy the lovely and tasty Mexican food, particularly that rich in «frijoles negros».

www.medigraphic.com

¹ Director, Centro Study Fegato (CSF) - Liver Research Center.