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The improved antifibrotic effect of combination between interferon and *Sonchus oleraceus* extract on thioacetamide-induced liver fibrosis in male rats

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Liver fibrosis is the wound healing response to a variety of acute or chronic stimuli, for instance viral infection, toxins and metabolic diseases. The pattern of hepatic stellate cell activation provides an important framework to pinpoint sites of antifibrotic therapy. IFN exhibit a wide spectrum of biological activities in target cells including antiviral, immunomodulatory, anti angiogenic and growth-inhibitory effects. The antiproliferative effects of IFN are the rational basis for their use in the treatment of metastatic malignant melanoma and renal cell carcinoma. The food use of *S. oleraceus* is justified by the high content of vit. C, flavonoids and phenolics. The previous studies discussed the antifibrotic effect of IFN and *S. oleraceus* individually on liver fibrosis but in this study the combination treatment has been studied well in the induced liver fibrosis models. Using different immunoassays, histopathology, colorimetric and PCR techniques results obtained showed that TAA causes hepatic fibrosis by induction of free radical production and decrease cellular antioxidant stores. The different treatment ways including combination treatment group showed a significant inhibitory effect in targeting hepatic fibrosis by reducing oxidative stress, increasing the activity of antioxidant enzymes and by inhibiting HSCs inflammation, activation and proliferation through increasing the levels of antifibrotic co-transcription factor PPAR- γ and decrease the levels of the main HSCs fibrogenic cytokines TGF β 1 and PDGF-BB. In conclusion, biochemical, molecular and histopathological findings demonstrated that the combination treatment improved the antifibrotic effect better than the individual one, the prophylactic usage of SE protected against hepatic fibrosis and SE had no side effect.

Biography

Montasser Altorgoman, is currently a PhD candidate at the Alexandria University, Egypt Faculty of Science, Department of biochemistry. In addition he is as a biochemist at the Toxins lab at the Ministry of health. Since the usage of Interferon for treatment of Virus C patients specially genotype 4 is inevitable, so the question is could be the side effects of the Interferon prohibited and the contraindications to the Interferon treatment might be evaded. Hence his all focus is for finding new techniques like liposomal delivery and/or a new adjuvant therapy specially the natural ones to ameliorate side effects of the treatment.

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