

Emerging Immune/Antiviral Activity of Nigella

Kerry Bone

Hepatitis C is a major global health issue and Egypt has the highest prevalence of hepatitis C virus (HCV) in the world (15%). This prompted a group of Egyptian scientists to investigate the activity of two local herbs (*Nigella sativa* and ginger) and their combination in patients with chronic HCV.¹ This was an open design study, with patients acting as their own control (in other words changes from baseline were assessed). Sixty patients with proven HCV and fifteen age-matched healthy volunteers were included in the study. Exclusion criteria included patients on interferon alpha (IFN-alpha) therapy and infection with hepatitis B virus. Liver function enzymes, albumin, total bilirubin, prothrombin time and concentration, international normalised ratio (INR), alpha fetoprotein and viral load were all assessed at baseline and at the end of the study. Dried ethanolic extracts of *Nigella* seed and ginger rhizome were prepared and formulated into capsules, each containing 500 mg, with a dose of one a day (or one a day of each for the combination). Clinical response and incidence of adverse drug reactions were assessed initially, periodically, and at the end of the study. Both extracts as well as their mixture significantly improved viral load, alpha fetoprotein and liver function parameters; with a more potent effect for the combined therapy. In addition, bilirubin was nearly normalised in the *Nigella* only group (compared to levels in healthy volunteers). Viral loads were reduced by an average of around 75% in the group receiving the herb combination.

A group of scientists have described their observations of patients infected with HIV undergoing treatment by a traditional Nigerian herbalist.² The herbalist was treating the patients with a concoction prepared from *Nigella* seed and honey in a 60:40 ratio, dose 30 mL/day with water. In an open-label pilot study, 11 patients receiving the above therapy were recruited with the co-operation of the herbalist. Only 6 had completed the treatment course three months later, but results were astounding. The symptoms and signs associated with HIV infection disappeared within 20 days of commencement of herbal therapy, with a significant difference ($p < 0.05$) between before treatment and at periodic intervals on therapy. Body weight increased from an average of 53 ± 2 kg to 63 ± 2 kg, viral load (HIV-RNA) decreased from $42,300 \pm 1500$ copies/mL to an undetectable level (≤ 50 copies/mL), and CD4 count increased from an average of 227 ± 9 to 680 ± 12 mm³ / μ L at 4 months post-therapy. The same main authors have also published a case report of a 'complete recovery' of a Nigerian patient with HIV.³ The patient presented to the herbalist with a history of chronic fever, diarrhoea, weight loss and multiple papular pruritic lesions of 3 months' duration. Examination revealed moderate weight loss, and laboratory tests confirmed sero-positivity to HIV infection, with pre-treatment viral (HIV-RNA) load and CD4 count of 27,000 copies/mL and CD4 count of 250 cells/mm³ respectively. The patient was commenced on *Nigella* concoction 10 mL twice daily for 6 months. He was contacted daily to monitor side effects and drug efficacy. Fever, diarrhea and multiple pruritic lesions disappeared on the 5th, 7th and 20th day, respectively, on *Nigella* therapy. However, the CD4 count decreased to 160 cells/mm³ despite the significant reduction in viral load (≤ 1000 copies/mL) on the 30th day. The post-

therapy CD4 count was 650 cells/mm³ with undetectable viral (HIV-RNA) load. Several repeats of the HIV tests remained sero-negative, aviremic and with a normal CD4 count up to 24 months without herbal therapy.

References

- 1 Abdel-Moneim A, Morsy BM, Mahmoud AM et al. *EXCLI Journal* 2013; 12: 943-955
- 2 Onifade AA, Jewell AP, Ajadi TA et al. *J Herbal Med* 2013; 3(3): 99-103
- 3 Onifade AA, Jewell AP, Adedeji WA. *Afr J Tradit Complement Altern Med* 2013; 10(5): 332-335