

Treatment of Hepatitis C with Interferons: A Need for Caution

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The interferon group of drugs are currently the most widely used therapeutic agents against hepatitis C virus (HCV) infection. Interferon alpha is the only drug approved so far by the Food and Drug Agency (USA) for use in HCV infection. However, even this stamp of official approval does not make interferon a panacea for HCV disease. There are problems with efficacy of treatment with what is essentially a very expensive treatment modality, particularly for a third world country. We have to look carefully at the available evidence and decide for ourselves how best to use interferon for our patients. Interferons are proteins produced by certain cells in response to various stimuli including viral antigens¹. The anti-viral and immunomodulatory effects of interferons formed the basis of their use in a pilot study in chronic Non A Non B hepatitis (HCV) patients². This and subsequent randomized controlled trials clearly showed that interferon was efficacious in the treatment of chronic HCV infection^{3,4}. It lowered and, in many cases, normalized SGPT levels in these patients and also caused the disappearance of HCV RNA from serum⁵. However, from these trials it also became clear that interferon is not universally effective in chronic HCV infections. At best 50-60% patients showed a complete response by normalizing their SGPT levels. In the rest either the SGPT levels did not change (non-responders) or reduced but did not normalize (partial responders). Even in the complete responders, nearly half relapsed after treatment was stopped. Thus the overall response rate is only between 25-30%. Whether this group of patients has been cured of their infection is still not known because long term follow-up over a number of years is still not available. This variability in response to interferon has fueled considerable research into discovering good and bad prognostic factors⁶. While this has advanced our knowledge about the pathogenesis of HCV infection, it has also meant constantly changing recommendations for treatment from various investigators. For example, for quite sometime the standard recommended dose for interferon for chronic HCV infection has been 3 million units three times a week by subcutaneous injection. Recently it has been suggested that by using a higher dose initially (5 million units three times a week for the first 2-3 months) followed by the standard dose of 3 million units for a further 3 months increases the response rate⁷. Also extending the length of treatment from the standard of 6 months to one year, possibly in a reduced dose, enhances responsiveness⁸. Among the adverse prognostic factors that have been clearly shown to be significant are a high pre-treatment level of viremia, as measured by PCR⁹ and the presence of established cirrhosis⁶. Other suspected but not clearly proven adverse factors might be the excess level of iron in liver and the various genotypes of HCV⁹. What all this implies is that interferon treatment of HCV infection still remains very much in the research domain, with sufficient uncertainties surrounding it so as to preclude a wholly standardized protocol for its general use. Moreover, interferon is not without significant side effects. There is invariably a flu-like reaction to the injection. More serious problems include bone marrow suppression with leucopenia and thrombocytopenia, auto-immune thyroid disease and neuropsychiatric disorders^{2,3}. While the bone marrow problems are usually reversible when the drug is stopped, thyroid disease may become permanent. Patients need to be closely monitored for the early detection of these potent side effects. It, therefore, follows that the use of this highly expensive and potentially toxic agent should be restricted to specialists who have an ongoing interest in this area. Many instances have come to light where interferons have been used by internists and even general practitioners to treat HCV infection, in many cases inappropriately. Hopefully it will be clear from the above discussion that such practices need to be strongly discouraged as they may put the lives of

patients at unnecessary risk.

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