INTRODUCTION

Ocular toxicity, including retinopathy, optic neuropathy and ocular loss, has been rarely (<1%) reported as potentially serious adverse event, associated with standard interferon therapy. Sub-clinical retinal toxicity during anti-viral therapy with pegylated alpha-interferon and ribavirin is quite frequent; the reported incidence in the literature varies from 18 to 86% (1). Here we present a patient who developed retinopathy during the treatment with alpha INF for HCV hepatitis.

CASE REPORT

The patient was a 40-year-old female with chronic hepatitis C at liver biopsy (grading 3 and staging 1 by Ludwig; HCV-RNA >700,000 UI/ml and genotype 3a). PEG-INF alpha 2b (50 µg a week subcutaneously) plus ribavirin (800 mg/day) were administered in July 2001. Five months later she noted progressive impairment of her visual acuity and blurring of vision. Ophthalmologic examination and fluorangiography of the right eye showed macular oedema, retinal haemorrhages and cotton wool spots (Figures 1 and 2).

The left eye was normal. PEG-IFN therapy was immediately discontinued and the symptoms improved during the following weeks. Ophthalmologic reevaluation with fluorangiography done 3 months later revealed complete regression of the exudative lesions with severe chorioretinic atrophy.
After the discontinuation of the therapy with interferon the patient in question has been followed for a period of four years. In this period she had a virological and biochemical sustained response.

**DISCUSSION**

Depression, fatigue, fever and other flu-like symptoms are commonly reported adverse side effects of treatment with both standard and pegylated interferon. Ophthalmologic side effects of interferon therapy (characterised by retinal haemorrhages, cotton wool spots and macular oedema) have been reported, however limited data on their frequency and pathogenesis is available.

The variability could be related to several factors including the dose of interferon, frequency of the eye examination, associated systemic conditions with the presence of underlying retinal vascular disease. The exact mechanism of interferon lesion is not known but it is assumed to be related to the disturbance in retinal microcirculation.

For some authors, the incidence of retinopathy is low, asymptomatic and the retinal complications disappear in the course of treatment even though interferon continues to be administered; the routine screening for retinopathy in patients treated with pegylated interferon is not supported (2).

In most recent studies, sub-clinical retinal toxicity during antiviral therapy with PEG-INF and ribavirin has been frequent, suggesting that patients should be warned about this risk and monitored during the therapy (3).

The product information of the pegylated interferon contains a warning about potential ophthalmologic disorders. In the Pegasys product information it is highly recommended that all patients should receive an eye examination at baseline. In the Peg-Intron product information periodical ophthalmological examinations during the treatment are advisable.

We think that all patients should receive an ophthalmological examination at baseline, to exclude pre-existing ophthalmologic disorders and they should be warned about this risk too. After starting the therapy with PEG-INF and ribavirin the ophthalmological examination should be repeated only for the patients who complain about visual impairment.

If it is known before the treatment that a patient is affected by retinopathy, the prescription of the therapy should be discussed, depending on the retinic lesions, the availability of a frequent ophthalmological follow up, patient’s compliance, hepatopathy staging and the possibility of a therapeutical response.

In our opinion it is inappropriate to undertake this kind of monitoring for each patient treated with PEG-INF and ribavirin, despite of what is used to do with patients who take ethambutol for tuberculosis.

The explanation of our hypothesis is that according to the literature, asymptomatic retinopathy is reversible; and because asymptomatic retinopathy occurred in 25-40% of patients who receive these drugs, the therapy should be interrupted because of the potential severity of the ocular complication; in this way those who could have had a sustained virological response would be lost.

*Key words: retinopathy, interferon, HCV hepatitis.*

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**SUMMARY**

Ocular involvement, mainly as optic neuropathy or retinopathy, in the course of interferon therapy is clinically rare, while the subclinical retinal toxicity is quite frequent.

We present a case of retinal toxicity during treatment with PEG-INF alpha 2b and ribavirin for HCV hepatitis. We suggest that all patients receive an ophthalmological examination at base-line and repeated ophthalmological examination only if clinically advisable.
L’interessamento oculare, prevalentemente come neuropatia ottica o retinopatia, in corso di terapia con interferone è clinicamente raro, mentre le alterazioni retiniche sub-cliniche sono molto frequenti. Riportiamo il caso clinico di una tossicità retinica in corso di terapia con PEG-INF α 2b e ribavirina per epatite cronica da HCV. Suggeriamo di eseguire di routine una valutazione oculistica prima dell’inizio della terapia con interferone e valutazioni oculistiche successive solo in presenza di disturbi clinici.

**REFERENCES**

