Case Report

Perimyocarditis secondary to pegylated interferon alpha 2a in chronic hepatitis C

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Introduction

Treatment of chronic hepatitis C is based on combination of pegylated interferon with ribavirin. There are many adverse effects of pegylated interferon which can lead to stop the treatment definitively. Cardiovascular toxicity of pegylated interferon was rarely described in chronic hepatitis C. We report the case of perimyocarditis due to pegylated interferon used with ribavirin during the treatment of chronic hepatitis C.

Case Report

A 61-year-old women without known previous clinical heart disease, having chronic hepatitis C infection of genotype 1b, with initial DNA HVC level at 7×10^6 UI/ml, was treated in December 2008 by pegylated interferon alpha 2a (180 µg per week) and ribavirin (1000 mg per day). Pretherapeutic investigation showed a normal blood cell count, negative antinuclear, anti-liver-kidney-microsome 1, anti-mitochondria, anti smooth muscle antibodies. Cryoglobulinemia was negative. Thyroïd test associating TSH, anti-peroxydase antibodies and anti-thyroglobulin antibodies was normal. The evolution was marked by a virological response after 12 weeks of treatment with DNA HVC at 1.4 x 10^6 UI/ml. During treatment there was an anemia with hemoglobin level at 6 g/dl leading to diminish ribavirin then a normalization of hemoglobin level. In August 2009, corresponding to the thirty third week of treatment, the patient was hospitalized for chest pain and dyspnea. The clinical examination found a tachycardia at 100 bpm, blood pressure 13/8, a respiration frequency at 26 cpm, tricuspidien murmur, distended jugular veins, hepatomegaly, inferior member-odemata and flank dullness. Electrocardiogram showed a microvoltage in lower derivations and the heart enzymes were normal eliminating a myocardial infarction. Chest radiography found cardiomegaly with cardio-thoracic index at 0,67. Echocardiography found a dilated cardiomyopathy with ejection fraction at 40%, and circumferential non compressive pericardial effusion. Pegylated interfron as well as ribavirin were stopped. The patient was put under special diuretics, nitrats and angiotensin inhibitor conversion enzymes. The evolution was marked by clinical, radiological and echographic improvement within 03 months. Pegylated interferon and ribavirin were stopped definitively. Perimyocarditis secondary to pegylated interferon alpha 2a was retained.

Discussion

We report a case of pericardomyocarditis induced by pegylated interferon alpha 2a prescribed for chronic hepatitis C, associating to ribavirin: before the first injection of pegylated interferon, the cardiologic examinations were normal, the dilated cardiomyopathy as well as the pericardial effusion appeared under treatment then disappeared after stopping therapy. Literature review, had revelated pericarditis associated to pegylated interferon which was incrimined in the appearance of this direct side effect [1,2]. In our case, the pericardomyocarditis is not due to an auto-immune pathology induced by the pegylated interferon, since research of antinuclear antibodies as well as the cryoglobulinemyia before beginning of treatment was negative. There wasn't element in favor of neither thyroid nor infectious origin, tuberculosis in particular. Anaemia did not explain the cardiac disorders which had anyway arisen after its correction.

The incidence of the cardiovascular side effects of the pegylated interferon, in particular during chronic hepatitis C, is badly known. The knowledge of these effects comes primarily from clinical cases and varies from 3 to 15% [3,5]. The cardiovascular effects are generally amount-dependant and frequently occur at the old subjects [7]. There

exists often a reversibility of the symptoms after stopping treatment as in our case [3,7]. The cardiac complications can be the consequence of flu symptoms induced by the pegylated interferon especially among patients having a preexistent cardiopathy [2]. The physiopathological mechanism of the pegylated interferon on the myocytes remains little known and probably multi-factorial [6]. In vitro, a direct pathogenic effect on the myocardic cells was evoked [4]. In vivo, myocardic biopsies were realized with non conclusive results [2].

In conclusion, we report a case of perimyocarditis due probably to pegylated interferon alpha 2a in chronic hepatitis C. Though rare, a rigorous cardiac monitoring during pegylated interferon therapy seems necessary.

References

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