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Case Report

Autoimmune Hepatitis after Ten Years from Pegylated Interferon Treatment- A Case Report

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Abstract

Interferon is an effective therapy in several diseases; it was a milestone of hepatitis c treatment for a long time. Pegylated interferon is more effective than alpha interferon, adding polyethylene glycol. It has an immunomodulatory effect through the antiviral and cellular activity, but it is burden with adverse effects, some of them are serious. It can be explain with the immunological role of interferon and it is derived in the genesis of some disease like autoimmune hepatitis, it is a liver disease with a multifactorial genesis, an environment agent can stimulate the predisposed subject. We present a case of autoimmune hepatitis ten years later than pegylated interferon therapy.

Keywords: Autoimmune hepatitis; Hepatitis c; Interferon; Pegylated interferon; Pathogenesis

1. Introduction

Interferon and ribavirin was the therapy for hepatitis c in the past decade [1]. The term Interferon includes interferon alpha, beta and gamma deriving from fibroblasts, epithelial cells, and hepatocytes, plasmacytoid dendritic cells. Interferon-a have two rules: antiviral and immune [2]. Finally interferon create an antiviral status of infected cells stimulating many genes and proteins and inducing the expression of major histocompatibility complex, on antigen-presenting cells and hepatocytes, causing degradation of viral messenger RNA [3-4]. Pegylated interferon is a synthetic interferon modifying pharmacodynamics attaching polyethylene glycol, and its use overtook the interferon to obtain sustained virologic response [5]. Interferon-a can stimulate APCs and enhance humoral autoimmunity, and activate autoreactive T cells. In pathogenesis of autoimmune diseases, viral infection can play a rule in increasing numbers of auoreacitve circulating T cells and B cells, so interferon can trigger autoimmune diseases in patients

who have a predisposition. But also iatrogenic interferon has the possible side events such as fever, chills, cardiac insufficiency and immune related disorders associated [3-4].

Autoimmune hepatitis is a liver disease with autoimmune pathogenesis presenting with different clinical picture from subclinical to acute liver failure [6]. It presents the Immunoglobuline G (IgG), anti-nuclear antibody or anti-smooth muscle antibody positivity; and a typical histological finding of interface hepatitis [6-7]. We described a case of autoimmune hepatitis ten years after Hepatitis c treatment.

A 68 year old man was referred to our hospital for increase of serum transaminases (195/480 U/L) at a health checkpoint. Ten years earlier he discovered the HCV infection (genotype1) so he had undergone HCV treatment with peginterferon alpha 2a (180 µg weekly) and ribavirin (1000 mg daily, according to her body weight), he had complete virological response (at 12 weeks of treatment). Before the start of treatment he received hbv vaccine before HCV therapy. He hadn't history of ethanol consume. He is not referred any symptoms, at physical examination: the lungs were clear with no cardiac abnormalities, abdominal tenderness or hepatosplenomegaly. No abdominal ultrasound showed intrahepatic mass, portal hypertension, splenic diameter about 8 cm. Fibroscan: stiffness 8.7 KPa, IQR 2.1

He performed blood examination: leukocytes (6430/µL),AST 423 U/L, ALT 858U/L, total bilirubine 1 (mg/dL), normal plates, AMA negative, ASMA negative, ENA negative, ANA positive 1:160 with pattern rings and rods. Negative serum hepatitis C virus (HCV)-RNA titer was confirmed. Sierologica test for HBV, HCV, HIV remained negative. The patient started steroid therapy (50 mg of deltacortene) according to EASL guideline added azathioprine after 15 days at dosage of 50 mg/day for two week and then at 100 mg/day. At 3 month normalized serum transaminases were observed.

2. Discussion

Interferon has an important action in the immune response of organism to infections through different mechanisms, regulating the antiviral and antiproliferative activity [2-3]. Treatment with interferon alfa can determine the sustained virologic response of HCV in less than 20% of patients. Pegylated interferon is a synthetic interferon modifying pharmacodynamics attaching polyethylene glycol. The treatment with pegylated INF-α, determined sustainable virological response [5].

Interferon-alpha has been studied in various disease conditions and is used as a standard treatment in several of disease. Its use is associated a possible side effects, they have been described in several organ system. Many side-effects involved hematological toxicity, elevated transaminases, nausea, fatigue, and psychiatric sequelae are the most frequently encountered. However the mechanism of side effects remains to be elucidated at the moment [4-5].

The diversity of the described adverse effects may increase because of the high number of patients who receive treatment. Interferon can stimulate the immune system to attacks the patient's own cell and autoimmune hepatitis is based on attack the patient's own hepatocytes but mechanism of autoimmune hepatitis are still not clarified. In subjects with susceptible genes, which can be induced by the environment, drugs, infection and other factors [6]. HLA is involved in pathogenesis to autoimmune hepatitis, so as the lack of immune tolerance to antigens of hepatocyte that means a lack to response to stimulation of antigenic substances. Autoimmune hepatitis is a chronic hepatitis of unknown etiology, a lot of cytokines have been evolved in its development [7].

It is important know the possible mechanism of damage of interferon to evaluate the patients during and after therapy con interferon and its derivatives.

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