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Case Report

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Treatment of acute hepatitis C virus infection with interferon-α 2b and ribavirin: Case report and review of the literature

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Abstract

Hepatitis C virus (HCV) infection becomes chronic in about 85 % of individuals as demonstrated by the persistence of HCV. It is necesseray to treat acute hepatitis C infection. Interferon-α is generally used for the treatment of acute HCV infection.

Case presentation: A 55-year-old woman with a history of fatique and icter was diagnosed as acute hepatitis C virus infection. She was treated with interferon-α 2b 3 million unite sc three times in a week and ribavirin 1000 mg daily for 6 months. Within 2 weeks of therapy, the alanine aminotransferase (ALT) had became normal. At the end of the 3 months of therapy, HCV RNA was negative and remained negative 6 months after the end of interferon treatment (sustained response).

Conclusion: This report suggests that interferon-α 2b and ribavirin may have a role in treatment of acute hepatitis C virus infection.

Background

Interferon-α 2b has been shown to be effective in the treatment of acute Hepatitis C virus (HCV) infection [1]. We report a case of response to interferon-α 2b and ribavirin treatment for acute hepatitis C.

Case Presentation

This 55-year-old, previously healthy female presented in December 2001 with a 2-week history of fatigue, and icter. The laboratory tests revealed that high levels of alanine aminotransferase (ALT), aspartate aminotransferase (AST) and bilirubin. Therefore referred to our clinic.

There was no history of intravenous drug usage, blood transfusions, tattoos, travel or alchol intake. Her medications included local corticosteroids for dermatologic lesions and oral antidiabetics for type 2 diabetes mellitus. Her past medical history included a tonsillectomy for 40 years ago. There was no history of autoimmune disease.

On physical examination, the patient was icteric. There was no asterixis, palmar erythema or spider nevi. The liver was palpable. There was no splenomegaly, ascites or peripheral edema. Laboratory findings on admission included an alanine aminotransferase (ALT) level of 1381 IU/l and aspartate aminotransferase (AST) level of 1309 IU/l. The other laboratory investigations demonstrated gamma

glutamil transferase (GGT) 614 IU/l, blood glucose 419 mg/dl and total bilirubin 5.9 mg/dl. The WBC count was 4600 /μl, platelets 214000 /μl and hemoglobin 14 g/dl with no evidence of hemolysis on Giemsa stain.

The patient was tested for positive for anti-HAV IgG and negative for HBsAg, anti-HBc IgM, anti-HAV IgM, anti-Delta, anti-HEV IgM and anti-HEV IgG. She was positive for antibodies to HCV by third generation ELISA. HCV RNA was detected in serum of patient by polymerase chain reaction (PCR). The patient was negative for HBV-DNA by PCR. HIV serology was negative.

The auto antibodies Antinuclear antibody (ANA), AntiD-NA, anti-LKM-1, Antimitochondrial antibody (AMA), Anti-smooth muscle (ASMA) were negative.

An abdominal computerized tomogram showed enlarged liver and milimetric stones in fundus of bile bladder, no evidence of biliary tree dilatation or obstruction.

A liver biopsy was performed to exclude chronic hepatitis and this showed acute hepatitis. In the histologic picture it was detected only liver tissue necrosis.

Treatment was started with interferon-α 2b (Intron A, Schering-Plough, USA) 3 million unite sc three times in a week and ribavirin (Rebetol, Schering-Plough, USA) 1000 mg daily and continued for 6 months. Within 2 weeks of therapy, the ALT had became normal. A complete response with persistent normal ALT were observed. At the end of the 3 months of therapy HCV RNA was negative and remained negative 6 months after the end of interferon treatment (sustained response). During the first dose of interferon-α 2b flu like symptoms were observed. Overall, interferon in combination with ribavirin was well tolerated and there were no laboratory abnormalities.

Discussion

Hepatitis C is a common cause of chronic liver disease but is rarely associated with acute hepatitis. The majority of patients have no clinical symptoms and jaundice in this phase of acute viral hepatitis C. Clinical symptoms are not difference with other types of hepatitis [2]. It is necesseray to treat acute hepatitis C infection. HCV infection becomes chronic in about 85 % of individuals as demonstrated by the persistence of HCV. HCV is the major cause of cirrhosis and hepatocellular carcinoma [2]. Interferon-α is effective in improving biochemical outcomes and achieving sustained virologic clearance in patients with acute hepatitis C [3]. If acute infection is confirmed (with or without acute hepatitis), recent data suggest that early treatment of acute HCV infection with interferon-α may be highly effective in preventing chronic HCV infection [1]. These data underscore the importance of identifying persons with acute HCV infection and promptly referring them to experienced clinicians who can provide updated counseling and treatment [4]. However the optimum therapeutic regimen and duration of therapy for acute HCV infection had not been defined. In most studies patients with acute HCV infection were treated with daily application of interferon-α [1,5,6]. There were only two case reports and a small trial (nine cases) regarding the safety and efficacy of using either interferon-α or pegylated interferon plus ribavirin in patients with acute HCV infection [4,7,8]. We achieved virologic and biochemical response with interferon-α 2b 3 million unite sc. three times in a week and ribavirin daily. Also interferon-α and ribavirin treatment is standart treatment of chronic hepatitis C and more effective than interferon monotherapy [9]. The addition of ribavirin to interferon raises the rate of sustained response by a factor of two to three [5,10,11]. In our case the normalisation of ALT level was drastic in two weeks and persistent response was obtained.

The optimal time to treat acute hepatitis after the onset of infection is still unknown. In asymptomatic acute HCV infection some groups recommend starting treatment immediately, the therapy could be started immediately . Others prefer to wait for an increase in transaminase levels before starting treatment. The jury of the consensus conference: treatment of hepatitis C which was organized according to the methodological rules published by the Agence Nationale d'Accreditation et d'Evaluation en Sante (ANAES) could not advocate one or other of these approaches on the basis of current data [12]. In case of acute icteric hepatitis C: the jury recommends not to treat immediately, as spontaneous recovery may occur in approximately 50% of cases. Detection of HCV RNA should be done 12 weeks after the onset of jaundice, and treatment should be started if the result is positive [12]. In a state of marked endogenous immunological activation interferon-α might induce an uncontrolled immunological process, which could increase hepatic activity [6]. Therapy could be started more safely at the time when ALT activity decreasing, like in our case.

In our case, liver biopsy was performed for differential diagnosis, but the biopsy is not recommended routinely in acute HCV infection. The histologic finding is necessary evaluated in continuity of clinical and serologic data. The important for treatment of acute HCV infection is fact that patients after passed viral hepatitis C (only anti-HCV positive) had proved chronic hepatitis by histologic examination of liver in future [1,2,6].

Conclusion

Early identification and treatment of acute HCV infection is important. It was shown that interferon-α treatment is effective in the treatment of acute HCV infection. Interfer-

on-α 2b + ribavirin combination is effective in our case for the target goals of HCV RNA loss and prompt normalization of aminotransferases. Prospective clinical trials with large number of patients especially those using pegylated interferon, with or without ribavirin, should be conducted to choose optimum therapy for acute hepatitis C virus infection, in these trials the role of prognostic factors such as HCV genotype [13] and viral load [14] should be take in account.

Authors' contributions

HL conceived of the study, and participated in its design and coordination. DB, SE and MS participated in observation and treatment of the case. CE carried out the laboratory tests.

All authors read and approved the final manuscript.

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