

Title page

Antiviral therapy in acute viral hepatitis B : why
and when.

Abstract

Acute viral hepatitis B is cleared in more than 95% of patients, while the remainder ones may develop either chronic HBV infection or rarely fulminant hepatitis.

Therefore there are elderly patients with severe acute HBV hepatitis characterized by high serum bilirubin levels >15 mmole/dl, international normalized ratio (INR) with value more than 1.6; these patients are characterized by a severe outcome of HBV infection.

It is possible that antiviral drugs may be useful in a selected group of old patients with a decline of immunity or with other morbidities and characterized by severe acute hepatitis B.

text

Dear Editor,

Acute viral hepatitis B is cleared in more than 95% of patients, while the remainder ones may develop either chronic HBV infection or rarely fulminant hepatitis.

The role of antivirals such as lamivudine or entecavir has not been evaluated in controlled trials.

Therefore there are elderly patients with severe acute HBV hepatitis characterized by high serum bilirubin levels >15 mmole/dl, international normalized ratio (INR) with value more than 1.6; these patients are characterized by a severe outcome of HBV infection.

A logical hypothesis in these patients is that rapid decrease in the HBVDNA levels through the use of antiviral agent could result in a less intense host response against HCV virus.

Today, increased knowledge of the virological and immunological events to HBV infection permits to define the mechanisms involved in viral clearance, persistence and disease severity.

Even though virus-specific CD8 T cells play a major role in HBV clearance, coordinated activation of the different branches of adaptive immunity seems necessary to achieve viral control.

The immunological defects could be proportional to the level of HBV replication and inhibition of viral replication through antiviral treatment results in partial restoration of HBV specific T cell immunity (2-3) which is inadequate in elderly patients (4).

Moreover recent studies have provided evidence that a population of specialized T cells are able to regulate the immune response.

These cells reside mainly within a minor population of CD4 cells that express the phenotype markers CD25 (5).

They have been shown to suppress immunological responses against self and foreign antigens through suppressive cytokines.

It is possible that CD4+CD25+ T cells are responsible for the weak HBV specific T cell response in HBV infection and may inhibit the expansion and function of HBV specific CD8 T cells, precluding HBV clearance.

Today the phenomenon of immigration worldwide and vaccine treatments have caused an increase of median age and number of acute HBV infections.

Taken together these data, it is possible that antiviral drugs may be useful in a selected group of old patients with a decline of immunity or with other morbidities and characterized by severe acute hepatitis B.

Competig interests

The authors declare that they have no competing interests.

Authors' contribution

Morelli G, Perrella A*, Sbreglia C, Bellopede P, Riccio V, Perrella O.

VII Department of Infectious Diseases and Immunology – “D.Cotugno” Hospital –
Naples, Italy.

* “Liver Unit” - A. Cardarelli Hospital –Naples, Italy.

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Correspondance

Perrella A : phone and fax : 0815908302
e-mail : oreste.perrella@ospedalecotugno.it

Peer reviewers

Prof. Pio Conti : Cattedra di Immunologia – Università di Chieti
e-mail: pconti@unich.it

Prof. Luigi Buonaguro : Virologia Oncologica – Istituto dei Tumori Fondazione
Pascale – Napoli

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Dear Editors,

I would like to submit to your attention an our brief report entitled "Antiviral therapy in acute viral hepatitis B: why and when" as a Letter to the Editor.

The clinical manifestations of liver disease in the geriatric population reflect both the cumulative effects of longevity on the liver and the generalized senescence of the body's ability to adjust to metabolic, infectious, and immunologic insults.

Aging people may be affected by other diseases (diabetes, cardio-vascular and pulmonary diseases, etc.) and an acute liver disease may precipitate a liver failure in this category of patients.

For these reasons we propose, in aging people affected by acute viral hepatitis B and with high levels of HBV DNA ($> 10^6$) at the peak of transaminasis, the use of a brief cycle of lamivudine, until HbsAg disappearance.

With best regards.

Oreste Perrella