

## **Hepatitis B – new antiviral treatment options**

*Bernd Salzberger, Klinikum Universität Regensburg, Klinik I für Innere Medizin  
Regensburg, Germany*

Hepatitis B infection is a common and severe problem worldwide. Currently 500 million people are chronically infected with Hepatitis B and 500.000 to 1.2 million people die every year from complications of Hepatitis B, i.e. end-stage liver disease or hepatocellular carcinoma.

Chronic Hepatitis B can be treated with antiviral drugs; the first effective drug to be identified was interferon-alpha for chronic Hepatitis in HBe-Ag-positive patients. A number of new drugs, all inhibitors of the HBV-polymerase have been identified and licensed in the last years. They are all members of the class of nucleoside-/nucleotide-analogues. As our diagnostic tools have become better and more drugs for the treatment of Hepatitis B have been developed and licensed, indications for antiviral therapy and the use of single drugs or drug combinations have become better defined in the last years.

In acute Hepatitis B there is still no evidence that antiviral treatment will change the course of the disease, but as very large clinical trials would be necessary to demonstrate such an effect, this question will remain open for the near future.

It is now been recognised that the distinction between HBe-Ag-positive and -negative cannot distinguish sharply between patients with high and low or nearly absent viral replication. Patients may have high viral replication in the context of being HBe-Ag-negative due to point mutation in the viral genome. Therefore, direct measurement of viral replication (HBV-DNA) by PCR has become the standard diagnostic test.

The amount of viral DNA and amount of inflammation/fibrosis mainly is important for the decision to treat with interferon or with HBV-polymerase-inhibitors. With the broader and longer use of antiviral drugs, viral resistance has become more and more important. In patients treated with lamivudine monotherapy, resistance can develop rapidly, especially if a high viral load is present. Newer drugs as Adefovir and Entecavir have lower rates of resistance, but as cross resistance within the class of nucleoside-/nucleotide analogues can occur, combination therapy is becoming more and more important for high risk patients, i.e. patients with high viral load and/or immune suppression.

Further drugs for antiviral treatment of Hepatitis B are in development and will be presented.

### **Selected References for Further Reading**

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