

Basel, 16 February 2009

For the first time, doctors can predict which hepatitis B patients have the highest chance to achieve treatment success with Pegasys

Immune-boosting effect of Pegasys provides patients with the chance for a clinical cure

New data presented today showed that, for the first time, doctors can predict which hepatitis B patients treated with Pegasys (peginterferon alfa-2a) have the highest chance to achieve a positive treatment outcome—and even a clinical cure^{i,ii}. The study results represent an important step forward, as some patients will now be able to feel confident during their Pegasys treatment about the likelihood of beating the disease.

Several studies at the major Asia-Pacific liver disease meeting (APASL) focused on measuring the decline in levels of a viral protein called surface or 's'-antigen, to provide insight into the likelihood of treatment success for patients treated with Pegasys. S-antigen clearance, considered a clinical cure, is associated with greatly reduced liver cancer, cirrhosis and an improved life expectancy^{iii,iv,v}.

'In treating hepatitis B, we need to change mindsets and raise expectations so that patients and physicians are focused on achieving the best possible outcome—clearance of the s-antigen. These new data show that measuring s-antigen decline throughout treatment can help determine success in the long-term. Doctors can now therefore make a strong case to certain patients that Pegasys treatment may provide treatment success or even a clinical cure,' said Dr Patrick Marcellin, Professor of Hepatology at the University of Paris and Head of the Viral Hepatitis Research Unit in Hôpital Beaujon, Clichy, France.

'Unlike anti-viral tablets for hepatitis B, which just reduce the number of viral copies, Pegasys also boosts the body's immune system and mobilises it to fight the disease,' commented William M. Burns, CEO Roche Pharmaceuticals Division. 'Due to these immune-stimulating effects, the number of patients treated with Pegasys who achieve a clinical cure has been shown to continue increasing for years after the end of treatment. This supports its use as a first-line therapy for hepatitis B.'

Measuring success with Pegasys in the two types of hepatitis B

There are two types of patients with hepatitis B: those with early disease who still have the envelope or 'e'-antigen in their blood, and those who do not (called 'e-positive' and 'e-negative' disease, respectively). Although some of the treatment endpoints are different, s-antigen clearance is the ultimate goal of therapy in both types of hepatitis B.

All patients start off with e-positive disease. For e-positive patients, loss of the e-antigen after treatment, or 'e-seroconversion', signifies that therapy has worked well, and is a first important indicator of treatment success. In a new study looking at e-positive patients, the results showed that 50% of patients whose s-antigen levels dropped significantly 24 weeks after starting Pegasys treatment were able to achieve 'e-seroconversion', an important treatment endpoint for these patients. Furthermore, approximately 20% of the patients with e-seroconversion went on to achieve s-antigen clearance, a so-called 'clinical cure', six months after treatment had ended.ⁱⁱ

In some patients, after many years of infection, the virus mutates and no longer produces the e-antigen; these patients are considered e-negative. In this form of the disease, the virus evades the body's immune system so that the infection and liver damage return.

According to another new study presented at APASL, the number of e-negative hepatitis B patients who achieved a clinical cure continued to increase, even after the end of treatment with Pegasys.ⁱ At year five, 12.2% of Pegasys-treated patients had cleared s-antigen, compared with just 3.5% of lamivudine-treated patients. Whilst modest, the number of patients who achieve s-antigen clearance on Pegasys therapy is a breakthrough because such high rates of s-clearance have never been shown with an oral anti-viral.ⁱ Furthermore, researchers observed that s-antigen decline during treatment was associated with the achievement of a clinical cure.ⁱ

The ability of a finite 48-week course of Pegasys to induce a long-term response with increasing s-antigen clearance rates in some patients makes it a cost-effective option compared with oral anti-virals, which may need to be taken for life.^{vi}

Measuring patients' response to therapy

New data were also presented at APASL on Roche's surface antigen test, Elecsys HBsAg II assay.^{vii,viii,ix} In line with Roche's commitment to tailor treatment according to each patient's needs, growing scientific evidence is

showing that this test application for quantitative detection of the s-antigen – currently available on a research-only basis - represents a simple and reliable means of testing s-antigen levels, allowing doctors to accurately assess a patient's response to therapy and then to determine the most appropriate treatment approach.

About chronic hepatitis B

Chronic hepatitis B is a serious global healthcare problem that affects more than 350 million people worldwide. It is one of the principal causes of chronic liver disease, cirrhosis, and primary liver cancer. Approximately one million people die from chronic hepatitis B annually, making it the tenth leading cause of death worldwide. The ultimate objective of treatment in chronic hepatitis B is to induce s-antigen clearance, which is associated with complete and sustained remission of the liver disease, and improved life expectancy and is generally equated to clinical cure.

Pegasys in hepatitis B

Pegasys is approved for the treatment of chronic hepatitis B in over 60 countries. It is approved in the EU, the US and the People's Republic of China, among others.

About Roche

Headquartered in Basel, Switzerland, Roche is one of the world's leading research-focused healthcare groups in the fields of pharmaceuticals and diagnostics. As the world's biggest biotech company and an innovator of products and services for the early detection, prevention, diagnosis and treatment of diseases, the Group contributes on a broad range of fronts to improving people's health and quality of life. Roche is the world leader in in-vitro diagnostics and drugs for cancer and transplantation, and is a market leader in virology. It is also active in other major therapeutic areas such as autoimmune diseases, inflammatory and metabolic disorders and diseases of the central nervous system. In 2008 sales by the Pharmaceuticals Division totalled 36.0 billion Swiss francs, and the Diagnostics Division posted sales of 9.7 billion francs. Roche has R&D agreements and strategic alliances with numerous partners, including majority ownership interests in Genentech and Chugai, and invested nearly 9 billion Swiss francs in R&D in 2008. Worldwide, the Group employs about 80,000 people. Additional information is available on the Internet at www.roche.com.

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Additional information

-About Hepatitis, Roche Health Kiosk: www.health-kiosk.ch/start_hepa.htm

-About Pegasys and Hepatitis: www.roche.com/products/product-details.htm?type=product&id=86

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Roche Group Media Relations

Phone: +41 -61 688 8888 / e-mail: basel.mediaoffice@roche.com

- Daniel Piller (Head)
- Alexander Klauser
- Valeria Passoni
- Martina Rupp
- Claudia Schmitt

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- ⁱ Marcellin P et al. HBsAg clearance continues to increase after the end of treatment with PEGASYS ± lamivudine: 5-year follow-up study in patients with HBeAg-negative disease. Presented at: Asian Pacific Association for the Study of the Liver (APASL); February 13-16, 2009; Hong Kong, China.
- ⁱⁱ Lau GKK et al. HBsAg decline in patients treated with PEGASYS and its association with post-treatment response in HBeAg positive chronic hepatitis B. Presented at: Asian Pacific Association for the Study of the Liver (APASL); February 13-16, 2009; Hong Kong, China.
- ⁱⁱⁱ Marcellin P et al. Virological and biochemical response in patients with HBeAg-negative chronic hepatitis B treated with peginterferon alfa-2a (40KD) with or without lamivudine: results of 4-year follow-up. Presented at: 43rd Annual Meeting of the European Association for the Study of the Liver (EASL); April 23-27, 2008; Milan, Italy.
- ^{iv} Fattovich G et al. Delayed clearance of serum HBsAg in compensated cirrhosis B: relation to interferon alpha therapy and disease prognosis. *Am J Gastroenterol.* 1998;93(6):896-900.
- ^v Perrillo RP. Therapy of hepatitis B—viral suppression or eradication? *Hepatology.* 2006;43(2 suppl 1):S182-S193.
- ^{vi} Hoofnagle JH et al. Management of hepatitis B: summary of a clinical research group. *Hepatology.* 2007;45(4):1056-1075.
- ^{vii} Ferruccio B et al. Use of the Elecsys® HBsAg II assay for simple and accurate quantification of HBsAg levels in sera of patients infected with HBV. Presented at: Asian Pacific Association for the Study of the Liver (APASL); February 13-16, 2009; Hong Kong, China.
- ^{viii} Jidong J et al. Comparison of the sensitivity and specificity of the Elecsys® HBsAg II assay with other available assays in China for detection of HBsAg. Presented at: Asian Pacific Association for the Study of the Liver (APASL); February 13-16, 2009; Hong Kong, China.
- ^{ix} Louisirirotnchanakul S et al. Multiple sites for evaluation of the performance of the Elecsys® HBsAg II assay. Presented at: Asian Pacific Association for the Study of the Liver (APASL); February 13-16, 2009; Hong Kong, China.