Meeting Abstract

Market Uptake of Pegylated Interferons for the Treatment of Hepatitis C in Europe

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Deutsche Gesellschaft für Medizinische Informatik, Biometrie und Epidemiologie. 53. Jahrestagung der Deutschen Gesellschaft für Medizinische Informatik, Biometrie und Epidemiologie (gmds). Stuttgart, 15.-19.09.2008. Düsseldorf: German Medical Science GMS Publishing House; 2008. Doc P-5

The electronic version of this article is the complete one and can be found online at: http://www.egms.de/en/meetings/gmds2008/08gmds030.shtml

Published: 10-09-2008

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Introduction and Objectives

Hepatitis C virus (HCV) infection is a leading cause of chronic liver disease with life threatening sequelae such as end-stage liver cirrhosis and liver cancer. It is estimated that the infection

annually causes about 86,000 deaths, 1.2 million disability adjusted life years (DALYs), and ¼ of the liver transplants in the WHO European region [1].

Presently, only antiviral drugs can prevent the progression to severe liver disease. Pegylated interferons combined with ribavirin are considered as current state-of-the-art treatment. Objective of this investigation was to assess the market uptake of these drugs across Europe in order to find out whether there is unequal access to optimised therapy.

Material and Methods

We used IMS launch and sales data (April 2000 to December 2005) for peginterferons and ribavirin for 21 countries of the WHO European region [2]. Market uptake was investigated by comparing the development of country-specific sales rates. For market access analysis, we converted sales figures into numbers of treated patients and related those to country-specific hepatitis C prevalence.

To convert sales figures into patient figures, the amount of active pharmaceutical ingredients (API) sold was divided by average total patient doses (ATPD), derived by a probability tree-based calculation algorithm accounting for genotype distribution, early stopping rules, body weight, unscheduled treatment stops and dose reductions

$$N_{total} = API_{PegIFNa\text{-}2a}/ATPD_{PegIFNa\text{-}2a} + API_{PegIFNa\text{-}2b}/ATPD_{PegIFNa\text{-}2b}$$

For more concise result presentation the 21 included countries were aggregated into four categories:

1. EU founding members (1957): Belgium, France, Germany, Italy and Netherlands;
2. Countries joining EU before 2000: Austria (1995), Denmark (1973), Finland (1995), Greece (1981), Republic of Ireland (1973), Spain (1986), Sweden and UK (1973)
3. Countries joining EU after 2000: Czech Republic (2004), Hungary (2004), Poland (2004) and Romania (2007);
4. EU non-member states: Norway, Russia, Switzerland and Turkey.

Results

Market launch and market uptake of the investigated drugs differed considerably across countries. The earliest, most rapid and highest increases in sales rates were observed in the EU founding member states, followed by countries that joined the EU before 2000, countries that joined the EU after 2000, and EU non-member states. Most new EU member states showed a noticeable increase in sales after joining the EU.

Market access analysis yielded that until end of 2005, about 308 000 patients were treated with peginterferon in the 21 countries. Treatment rates differed across Europe. The number of patients ever treated with peginterferon per 100 prevalent cases ranged from 16 in France to less than one in Romania, Poland, Greece and Russia.

Discussion

Peginterferon market uptake and prevalence adjusted treatment rates were found to vary considerably across 21 countries in the WHO European region suggesting unequal access to optimised therapy. Poor market access was especially common in low-resource countries. Besides budget restrictions, national surveillance and prevention policy should be considered as explanations for market access variation.

Although our results allowed for the ranking of countries in order of market access, no final conclusions on over- or

undertreatment can be drawn, because the number of patients who really require antiviral treatment is unknown. Further research based on pan-European decision models is recommended to determine the fraction of not yet successfully treated but treatable patients among those ever diagnosed with HCV.

Acknowledgements

This project was supported in part by an unrestricted educational grant from Hoffmann La-Roche Ltd., Basel, Switzerland. The authors had complete and independent control over study design, analysis and interpretation of data, report writing, and publication, regardless of results.

We thank the members of the PanEuropean Hepatitis C Expert Panel for providing local information and reviewing the results of our study: A. Alberti (University of Padova); M. Buti (Liver Unit, Hospital Universitario Valle Hebron, Barcelona); F. A. Caruntu (Matei Bals National Infectious Disease Institute, Bucharest); C. Gore (The Hepatitis C Trust, London); S. Holmberg (Division of Viral Hepatitis, CDC, Atlanta); A. Horban (Hospital of Infectious Diseases, Warsaw); P. Mathurin (Service d'Hépatologie, CHRU, Lille); N. Piorkowsky (ELPA, Meckenheim); W. Rosenberg (Institute of Hepatology, University College London); O. Weiland (Division of Infectious Diseases, Karolinska Institutet, Stockholm); C. Yurdaydin (Gastroenterology Section, University of Ankara Medical School, Ankara).

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