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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Sorafenib tosylate for the treatment of hepatocellular carcinoma

On 11 April 2006, orphan designation (EU/3/06/364) was granted by the European Commission to Bayer HealthCare AG, Germany, for sorafenib tosylate for the treatment of hepatocellular carcinoma.

The sponsorship was transferred to Bayer Shering Pharma AG, Germany, in April 2009. Bayer Shering Pharma AG changed its name to Bayer Pharma AG in October 2011.

What is hepatocellular carcinoma?

Tumours that begin in the liver are known as primary liver tumours. The most frequent type of primary liver tumour that has the potential to infiltrate healthy tissues (malignant) is called hepatocellular carcinoma. The most common factors known to be associated with this disease are the viral infections causing liver inflammations (hepatitis B and hepatitis C) and subsequently cirrhosis, or alcohol-induced liver cirrhosis. Hepatocellular carcinoma is a life-threatening condition.

What is the estimated number of patients affected by the condition?

At the time of designation, hepatocellular carcinoma affected approximately 1 in 10,000 people in the European Union (EU)*. This is equivalent to a total of around 46,000 people, and is below the threshold for orphan designation, which is 5 people in 10,000. This is based on the information provided by the sponsor and knowledge of the Committee for Orphan Medicinal Products (COMP).

What treatments are available?

The choice of the treatment of hepatocellular carcinoma depends on several factors, mainly the stage of the disease. Treatments may include surgery, radiation therapy (using high-dose x-rays or other high-energy rays to kill cancer cells), chemotherapy (using drugs to kill cancer cells) or immunotherapy (treatment by stimulation of the body's own defense system). At the time of submission of the application for orphan drug designation, several products were authorised for the condition in some countries of the Community.

*Disclaimer: For the purpose of the designation, the number of patients affected by the condition is estimated and assessed on the basis of data from the European Union (EU 25), Norway, Iceland and Liechtenstein. This represents a population of 459,700,000 (Eurostat 2004).

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Satisfactory argumentation has been submitted by the sponsor to justify the assumption that sorafenib tosylate might be of potential significant benefit for the treatment of hepatocellular carcinoma, because it might improve the long-term outcome of the patients. The assumption will have to be confirmed at the time of marketing authorisation. This will be necessary to maintain the orphan status.

How is this medicine expected to work?

Sorafenib tosylate is a chemically synthesised product, which might play a role in the series of reactions by which an external signal (e.g. a hormone) interacts with a cell and changes its function. The sponsor suggested two possible ways of actions of sorafenib tosylate on hepatocellular carcinoma. The first mechanism would consist of blocking the multiplication of cancer cells. The second mechanism would consist in preventing the formation of new blood vessels within the tumour, since these are critical for the survival of the cancer cells.

What is the stage of development of this medicine?

At the time of submission of the application for orphan designation, the effects of sorafenib tosylate had been evaluated in experimental models, and clinical trials in patients with hepatocellular carcinoma were ongoing.

Sorafenib tosylate was not authorised anywhere in the world for treatment of hepatocellular carcinoma, at the time of submission. Orphan designation of sorafenib tosylate was granted in United States for treatment of hepatocellular carcinoma.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 8 March 2006 recommending the granting of this designation.

Update: Sorafenib tosylate (Nexavar) has been authorised in the EU since 29 October 2007 for the treatment of hepatocellular carcinoma.

More information on Nexavar can be found in the European public assessment report (EPAR) on the Agency's website: ema.europa.eu/Find medicine/Human medicines/European Public Assessment Reports

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Opinions on orphan medicinal product designations are based on the following three criteria:

- the seriousness of the condition;
- the existence of alternative methods of diagnosis, prevention or treatment;
- either the rarity of the condition (affecting not more than 5 in 10,000 people in the EU) or insufficient returns on investment.

Designated orphan medicinal products are products that are still under investigation and are considered for orphan designation on the basis of potential activity. An orphan designation is not a marketing authorisation. As a consequence, demonstration of quality, safety and efficacy is necessary before a product can be granted a marketing authorisation.

For more information

Sponsor's contact details:

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For contact details of patients' organisations whose activities are targeted at rare diseases see:

- Orphanet, a database containing information on rare diseases which includes a directory of patients' organisations registered in Europe.
- European Organisation for Rare Diseases (EURORDIS), a non-governmental alliance of patient organisations and individuals active in the field of rare diseases.

Translations of the active ingredient and indication in all official EU languages[1], Norwegian and Icelandic

Language	Active Ingredient	Indication
English	Sorafenib tosylate	Treatment of hepatocellular carcinoma
Bulgarian	Сорафениб тосилат	Лечение на хепатоцелуларен карцином
Czech	Sorafenib tosylat	Léčba hepatocelulárního karcinomu
Danish	Sorafenibtosylat	Behandling af hepatocellulært carcinom
Dutch	Sorafenib tosylaat	Behandeling van hepatocellulair carcinoom
Estonian	Sorafeniibtosülaat	Hepatotsellulaarse kartsinoomi ravi
Finnish	Sorafenibtosylatti	Hepatosellulaarisen karsinooman hoito
French	Tosylate de sorafénib	Traitement du carcinome hépatocellulaire
German	Sorafenibtosylat	Behandlung des Leberzellkarzinoms
Greek	Sorafenib tosylate	Θεραπεία του ηπατοκυτταρικού καρκινώματος
Hungarian	Sorafenib tosylate	Hepatocelluláris carcinoma kezelése
Italian	Sorafenib tosilato	Trattamento del carcinoma epatocellulare
Latvian	Sorafeniba tosilāts	Hepatocellulāras karcinomas ārstēšana
Lithuanian	Sorafenibo tozilatas	Hepatoceliulinės karcinomos gydymas
Maltese	Sorafenib tosylate	Kura tal-karċinoma epatoċellulari
Polish	Tosylat sorafenibu	Leczenie raka wątrobowokomórkowego
Portuguese	Tosilato de sorafenib	Tratamento do carcinoma hepatocelular
Romanian	Tosilat de sorafenib	Tratamentul carcinomului hepatocelular
Slovak	Tosylát sorafenibu	Liečba hepatocelulárneho karcinómu
Slovenian	Sorafenib-tozilat	Zdravljenje hepatocelularnega karcinoma
Spanish	Sorafenib tosilato	Tratamiento del carcinoma hepatocelular
Swedish	Sorafenibtosylat	Behandling av hepatocellulärt karcinom
Norwegian	Sorafenibtosylat	Behandling av hepatocellulært karsinom
Icelandic	Sórafeníb tósýlat	Meðferð við lifrarfrumukrabbameini

[1] At the time of transfer of sponsorship