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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Recombinant human alpha-1-microglobulin for the treatment of pre-eclampsia

On 4 July 2014, orphan designation (EU/3/14/1289) was granted by the European Commission to A1M Pharma AB, Sweden, for recombinant human alpha-1-microglobulin for the treatment of pre-eclampsia.

What is pre-eclampsia?

Pre-eclampsia is a condition that may occur from 20 weeks of pregnancy, in which the woman, who previously had normal blood pressure, develops sustained high blood pressure and presents significant amounts of protein in the urine. Pre-eclampsia can lead to a more serious condition called eclampsia, in which the woman has seizures (fits). The exact cause of pre-eclampsia is unknown. The condition normally resolves when the baby is born.

Pre-eclampsia is a life-threatening condition due to its complications, such as the risk of seizures, damage to different organs such as the kidney and cerebral haemorrhage (bleeding in the brain). Pre-eclampsia also carries risks for the baby who tends to be smaller and have a higher risk of prematurity and death.

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

At the time of designation, pre-eclampsia affected approximately 3.8 in 10,000 people in the European Union (EU). This was equivalent to a total of around 194,000 people*, and is below the ceiling for orphan designation, which is 5 people in 10,000. This is based on the information provided by the sponsor and the knowledge of the Committee for Orphan Medicinal Products (COMP).

*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 28), Norway, Iceland and Liechtenstein. This represents a population of 511,100,000 (Eurostat 2014).

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What treatments are available?

At the time of designation, several medicines were authorised in the EU for the treatment of pre-eclampsia, including medicines to lower blood pressure and medicines to prevent seizures. However, the only cure for pre-eclampsia is the delivery of the baby.

The sponsor has provided sufficient information to show that recombinant human alpha-1-microglobulin might be of significant benefit for patients with pre-eclampsia because it works in a different way to existing treatments and early studies in experimental models show that it might improve the outcome of women with this condition. This assumption will need to be confirmed at the time of marketing authorisation, in order to maintain the orphan status.

How is this medicine expected to work?

This medicine is a copy of the human alpha-1-microglobulin, a protein which plays a role in protecting the body from the effects of extracellular haemoglobin. Haemoglobin, the protein that carries oxygen around the body, is normally found inside red blood cells; in pre-eclampsia, fetal haemoglobin is released into the mother's bloodstream and is broken down into heme (iron-containing) groups and free radicals, which are thought to contribute to the high blood pressure and damage to the placenta in women with pre-eclampsia. The medicine is expected to clear up the broken-down haemoglobin from the bloodstream, thus limiting the damage to the placenta, lowering the blood pressure associated with the condition, and improving the outcomes of women with pre-eclampsia.

The protein in this medicine is made by a method known as 'recombinant DNA technology': it is made by cells into which a gene (DNA) has been introduced that makes them able to produce the protein.

What is the stage of development of this medicine?

The effects of recombinant human alpha-1-microglobulin have been evaluated in experimental models.

At the time of submission of the application for orphan designation, no clinical trials with the medicine in patients with pre-eclampsia had been started.

At the time of submission, recombinant human alpha-1-microglobulin was not authorised anywhere in the EU for pre-eclampsia or designated as an orphan medicinal product elsewhere for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 14 May 2014 recommending the granting of this designation.

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	Recombinant human alpha-1-microglobulin	Treatment of pre-eclampsia
Bulgarian	рекомбинантен, човешки алфа-1-микроглобулин	Лечение на прееклампсия
Croatian	Rekombinantni ljudski alfa-1-mikroglobulin	Liječenje preeklampsije
Czech	Rekombinantní lidský alfa-1-mikroglobulín	Léčba preeklampsie
Danish	Rekombinant humant alfa-1-mikroglobulin	Behandling af præeklampsi
Dutch	Recombinant alfa-1-microglobuline	Behandeling van pre-eclampsie
Estonian	Rekombinantne inimese alfa-1-mikroglobuliin	Preeklampsia ravi
Finnish	Ihmisen rekombinantti alfa-1-mikroglobuliini	Pre-eclampsian hoito
French	Alpha-1-microglobuline recombinante humaine	Traitement de la pré-éclampsie
German	Rekombinantes humanes Alpha-1-Mikroglobulin	Behandlung der Präeklampsie
Greek	Ανασυνδυασμένη ανθρώπινη α1-μικροσφαιρίνη	θεραπεία της προεκλαμψίας
Hungarian	Rekombináns human alfa-1-mikroglobulin	Pre-eclampsia kezelése
Italian	Alfa-1-microglobulina umana ricombinante	Trattamento della preeclampsia
Latvian	Rekombinants cilvēka alfa-1 mikroglobulīns	Preeklampsijas ārstēšana
Lithuanian	Žmogaus rekombinantinis alfa-1-mikroglobulinas	Preeklampsijos gydymas
Maltese	Mikroglobulina alfa-1 umana rikombinanti	Kura tal-pre-eklampsja
Polish	Rekombinowana ludzka alfa-1-mikroglobulina	Leczenie stanu przedrzucawkowego
Portuguese	Alfa-1-microglobulina humana recombinante	Tratamento da pré-eclâmpsia
Romanian	Alfa-1-microglobulină recombinantă umană	Tratamentul preeclampsiei
Slovak	Rekombinantný ľudský alfa-1-mikroglobulín	Liečba preeklampsie
Slovenian	Rekombinantni humani alfa-1-mikroglobulin	Zdravljenje preeklampsije
Spanish	Alfa-1-Microglobulina humana recombinante	Tratamiento de la preeclampsia
Swedish	Rekombinant humant alfa-1-mikroglobulin	Behandling av preeklampsi
Norwegian	Rekombinant humant alfa-1-mikroglobulin	Behandling av svangerskapsforgiftning
Icelandic	Raðbrigða manna alfa-1-míkróglóbúlín	Meðferð meðgöngueitrunar

[1] At the time of designation