

16 August 2018
EMA/355631/2018

Public summary of opinion on orphan designation

Carmustine for treatment in haematopoietic stem cell transplantation

On 27 June 2018, orphan designation (EU/3/18/2032) was granted by the European Commission to Adienne S.r.l. S.U., Italy, for carmustine for treatment in haematopoietic stem cell transplantation.

What is haematopoietic stem cell transplantation?

Haematopoietic stem cell transplantation (HSCT) is a procedure where the patient's bone marrow is cleared of cells and replaced by stem cells (cells that can develop into different types of cell) from a donor to form new bone marrow that produces healthy blood cells. It can be used to treat serious diseases of the blood and immune system such as leukaemia.

HSCT can be a debilitating and life-threatening procedure due to the risk of severe infections and developing graft-versus-host disease (when the transplanted cells regard the patient's body as 'foreign' and attack the patient's organs, leading to organ damage).

What is the estimated number of patients receiving haematopoietic stem cell transplantation?

At the time of designation, approximately 0.7 in 10,000 people receive HSCT per year in the European Union (EU). This was equivalent to a total of around 36,000 people per year^{*}, and is below the ceiling for orphan designation. This is based on the information provided by the sponsor and the knowledge of the Committee for Orphan Medicinal Products (COMP).

What treatments are available?

At the time of designation, several medicines were authorised in the EU for patients undergoing HSCT. These included radiation treatment or intensive treatment with cancer medicines such as busulfan to clear the bone marrow of existing cells in preparation for HSCT, medicines to help restore the immune system, such as filgrastim, immunoglobulin replacement therapy and Zalmoxis, and medicines to reduce the risk of infections, such as antiviral and antifungal medicines. Medicines that suppress the

^{*}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 517,400,000 (Eurostat 2018).

immune system, such as ciclosporin and corticosteroids, were used for the treatment of graft-versus-host disease.

The sponsor has provided sufficient information to show that the medicine might be of significant benefit for patients undergoing HSCT. Studies indicate that carmustine in combination with other medicines can prepare patients for autologous (from the patient's own body) HSCT leading to better outcomes than other available combinations. 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?

Carmustine is a cancer medicine that works by preventing cells from multiplying. It is intended to be used with other medicines to prepare the patient for HSCT by clearing the bone marrow of cells.

What is the stage of development of this medicine?

The effects of carmustine have been evaluated in experimental models.

At the time of submission of the application for orphan designation, no clinical trials with carmustine in patients undergoing HSCT were planned.

At the time of submission, carmustine was authorised in several countries in the EU for treatment of various cancers.

At the time of submission, carmustine was not authorised anywhere in the EU for use in patients undergoing HSCT. Orphan designation of carmustine had been granted in the United States for conditioning treatment prior to hematopoietic progenitor cell transplantation.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 24 May 2018 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:

Contact details of the current sponsor for this orphan designation can be found on EMA website, on the medicine's [rare disease designations page](#).

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 languages¹, Norwegian and Icelandic

Language	Active ingredient	Indication
English	Carmustine	Treatment in haematopoietic stem cell transplantation
Bulgarian	Кармустин	Лечение при трансплантация на хемопоетични стволови клетки
Croatian	Karmustin	Liječenje u transplantaciji hematopoetskih matičnih stanica
Czech	Karmustin	Léčba transplantace hemopoetickými zárodečnými buňkami
Danish	Carmustin	Behandling i hæmatopoietisk stamcelletransplantation
Dutch	Carmustine	Behandeling in haematopoëtische stemceltransplantatie
Estonian	Karmustiin	Kasutamiseks hematopoeetiliste tüvirakkude transplantatsiooni ravis
Finnish	Karmustiini	Hoito hematopoeettisen kantasolusiirron yhteydessä
French	Carmustine	Traitement dans la greffe de moëlle osseuse
German	Carmustin	Behandlung in hämatopoetischer Stammzelltransplantation
Greek	Καρμουστίνη	θεραπεία σε μεταμόσχευση αρχέγονων αιμοποιητικών κυττάρων
Hungarian	Karmusztin	Hematopoietikus őssejt-transzplantáció esetén alkalmazandó
Italian	Carmustina	Trattamento nel trapianto di cellule staminali ematopoietiche
Latvian	Karmustīns	Ārstēšanai hematopoētisko cilmes šūnu transplantācijā
Lithuanian	Karmustinas	Taikoma hematopoetinių kamieninių ląstelių transplantacijų gydyme
Maltese	Karmustina	Kura fi trapjant ta' ċelloli staminali ematopojetiči
Polish	Karmustyna	Leczenie w przebiegu przeszczepu hematopoetycznych komórek macierzystych
Portuguese	Carmustina	Tratamento em transplantes de células estaminais hematopoiéticas
Romanian	Carmustină	Tratament în transplantul de celule stem hematopoetice
Slovak	Karmustín	Liečba pri transplantácii hematopoietických kmeňových buniek
Slovenian	Karmustin	Zdravljenje pritransplantaciji hematopoetskih matičnih celic
Spanish	Carmustina	Tratamiento en el trasplante de células madre hematopoyéticas
Swedish	Carmustin	Behandling vid hematopoetisk stamcellstransplantation
Norwegian	Karmustin	Behandling ved hematopoetisk stamcelletransplantasjon
Icelandic	Carmustin	Meðferð á stofnfrumublóðfrumu ígræðslu

¹ At the time of designation