



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

21 January 2013
EMA/COMP/732940/2012
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Erdosteine for the treatment of lead toxicity

On 6 December 2012, orphan designation (EU/3/12/1084) was granted by the European Commission to Rafifarm SRL, Romania, for erdosteine for the treatment of lead toxicity.

What is lead toxicity?

Lead toxicity can occur when a person has been exposed to lead which can be found in the environment mainly due to its uses in industry and industrial processes. Exposure can occur from contact with lead in air, household dust, soil, water and commercial products.

Lead toxicity can lead to symptoms affecting many organs and body systems, including the heart, gut, kidneys, bones and reproductive and nervous system. Acute toxicity can result in pain, nausea, vomiting, diarrhea, constipation and muscle weakness. Long-term exposure to lead commonly results in loss of memory or concentration, depression, nausea, abdominal pain, problems with sleep and headache. In the most severe cases, lead toxicity can cause seizures (fits) and coma and may lead to death.

Lead toxicity is a long-term debilitating and life-threatening condition due to interference with several body processes and damage to organs and body systems.

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

At the time of designation, lead toxicity affected approximately 0.23 in 10,000 people in the European Union (EU)*. This is equivalent to a total of around 12,000 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).

What treatments are available?

At the time of designation, several medicines were authorised in the EU to treat lead toxicity, such as ethylenediaminetetraacetic acid (EDTA), dimercaprol, D-penicillamine, 2,3-dimercaptosuccinic acid

*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 27), Norway, Iceland and Liechtenstein. This represents a population of 506,300,000 (Eurostat 2011).



(DMSA) and 2,3 dimercapto-1-propane sulfonic acid (DMPS). These medicines are 'chelating' agents: they work by attaching to lead to form a compound that can be more easily excreted from the body.

The sponsor has provided sufficient information to show that erdosteine might be of significant benefit for patients with lead toxicity, because early studies show that it may be more effective than currently approved medicines at treating 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?

Erdosteine is already authorised for use as a mucolytic (an agent which dissolves thick mucus). It is not understood how erdosteine would work in lead toxicity, but based on early studies it is expected to increase the excretion of lead through the urine when given to patients with lead toxicity.

What is the stage of development of this medicine?

At the time of submission of the application for orphan designation, the evaluation of the effects of erdosteine in experimental models was ongoing.

At the time of submission, no clinical trials with erdosteine in patients with lead toxicity had been started.

At the time of submission, erdosteine was not authorised anywhere in the EU for lead toxicity 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 7 November 2012 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:

Rafifarm SRL
Draganesti-Vlasca
Jud. Teleorman, 147135
Romania
Telephone: +40 311 033 187
Telefax: +40 311 033 187
E-mail: business.development@rafifarm.ro

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 substance	Indication
English	Erdosteine	Treatment of lead toxicity
Bulgarian	Ердостеин	Лечение на токсичност от олово
Czech	Erdosteine	Léčba intoxikace olovem
Danish	Erdosteine	Behandling af blyforgiftning
Dutch	Erdosteine	Behandeling van loodtoxiciteit
Estonian	Erdosteine	Plii toksilisuse ravi
Finnish	Erdosteini	Lyijymyrkytyksen hoito
French	Erdosteine	Traitement de la toxicité au plomb
German	Erdosteine	Die Behandlung der Bleivergiftung
Greek	Ερδοστείνη	Θεραπεία της τοξικότητας μολύβδου
Hungarian	Erdosteine	Ólomtoxicitás kezelése
Italian	Erdosteina	Tattamento della tossicità del piombo
Latvian	Erdosteins	Svina toksicitātes ārstēšana
Lithuanian	Erdosteinas	Švino toksiškumo gydymas
Maltese	Erdosteine	Kura ta' tossicità biċ-ċomb
Polish	Erdosteina	Leczenie zatrucia ołowiem
Portuguese	Erdosteina	Tratamento da intoxicação pelo chumbo
Romanian	Erdosteina	Tratament pentru toxicitatea plumbului
Slovak	Erdosteín	Liečba otravy olovom
Slovenian	Erdosteine	Zdravljenje zastrupitve s svincem
Spanish	Erdosteine	Tratamiento de la toxicidad del plomo
Swedish	Erdosteine	Behandling av blyförgiftning
Norwegian	Erdosteine	Behandling av blyforgiftning
Icelandic	Erdosteine	Meðferð leiða eitrun

¹ At the time of designation