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EMA/COMP/637026/2014
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Palovarotene for the treatment of fibrodysplasia ossificans progressiva

On 19 November 2014, orphan designation (EU/3/14/1368) was granted by the European Commission to Medpace Germany GmbH, Germany, for palovarotene for the treatment of fibrodysplasia ossificans progressiva.

What is fibrodysplasia ossificans progressiva?

Fibrodysplasia ossificans progressiva is a genetic condition which causes abnormal formation of bone in the muscles, tendons, ligaments and other tissues. It is caused by a mutation (defect) in the gene for a receptor in cells that form bone and cartilage. This receptor is normally switched on by a protein called bone morphogenetic protein, triggering processes that lead to formation of bone. However, in patients with the mutation it is permanently switched on, leading to the formation of extra, unwanted bone in muscles and joints throughout the body.

Patients experience episodes of pain, inflammation and swelling ('flare-ups'), often triggered by minor injury to muscles or soft tissues, followed by abnormal bone formation with gradual restriction of movement and deformity. Patients usually require a wheelchair by the time they reach their third decade of life.

Fibrodysplasia ossificans progressiva is a long-term debilitating and life-threatening disease because of loss of mobility and gradual impairment of breathing and heart function due to bone formation in the chest.

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

At the time of designation, fibrodysplasia ossificans progressiva affected approximately 0.006 in 10,000 people in the European Union (EU). This was equivalent to a total of around 300 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?

No satisfactory methods of treatment were authorised in the EU for fibrodysplasia ossificans progressiva at the time of application. Patients were mainly managed by avoidance of injuries that could trigger a flare-up, and treatment of the symptoms including anti-inflammatory medicines for the pain and inflammation.

How is this medicine expected to work?

Palovarotene belongs to a class of medicines known as retinoids. It attaches to another receptor in cells, called the retinoic acid receptor gamma, switching on processes that reduce bone formation. Palovarotene is therefore expected to help prevent the abnormal bone formation seen in fibrodysplasia ossificans progressiva and relieve the symptoms of the condition.

What is the stage of development of this medicine?

The effects of palovarotene have been evaluated in experimental models.

At the time of submission of the application for orphan designation, a clinical trial with palovarotene in patients with fibrodysplasia ossificans progressiva was ongoing.

At the time of submission, palovarotene was not authorised anywhere in the EU for fibrodysplasia ossificans progressiva. Orphan designation of the medicine had been granted in the United States for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 9 October 2014 recommending the granting of this designation.

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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	Palovarotene	Treatment of fibrodysplasia ossificans progressiva
Bulgarian	Паловаротен	Лечение на прогресивна осифицираща фибродисплазия
Croatian	Palovaroten	Liječenje progresivne osificirajuće fibrodisplazije
Czech	Palovaroten	Léčba progresivní osifikující fibrodysplazie
Danish	Palovaroten	Behandling af fibrodysplasia ossificans progressiva
Dutch	Palovarotene	Behandeling van fibrodysplasia ossificans progressiva
Estonian	Palovaroteen	Progresseeruva ossifitseeriva fibrodüsplaasia ravi
Finnish	Palovaroteeni	Fibrodysplasia ossificans progressivan hoito
French	Palovarotène	Traitement de la fibrodysplasie ossifiante progressive
German	Palovaroten	Behandlung der Fibrodysplasia ossificans progressiva
Greek	Παλοβαροτένη	Θεραπεία της προοδευτικής οστεοποιού ινοδυσπλασίας
Hungarian	Palovarotene	Fibrodysplasia ossificans progressiva kezelése
Italian	Palovarotene	Trattamento della fibrodisplasia ossificante progressiva
Latvian	Palovarotēns	Progresējošās osificējošās fibrodisplāzijas ārstēšana
Lithuanian	Palovarotenas	Progresuojančios kaulėjančios fibrodisplazijos gydymas
Maltese	Palovarotene	Kura tal-fibrodisplasija ossificans progressiva
Polish	Palowaroten	Leczenie postępującego kostniejącego zapalenia mięśni
Portuguese	Palovaroteno	Tratamento da fibrodisplasia ossificante progressiva
Romanian	Palovaroten	Tratamentul fibrodisplaziei osificante progresive
Slovak	Palovarotén	Liečba progresívnej osifikujúcej fibrodysplázie
Slovenian	Palovaroten	Zdravljenje osifikantne napredujoče fibrodisplazije
Spanish	Palovaroteno	Tratamiento de la fibrodisplasia osificante progresiva
Swedish	Palovaroten	Behandling av Fibrodysplasia Ossificans Progressiva
Norwegian	Palovaroten	Behandling av fibrodysplasia ossificans progressiva
Icelandic	Palóvaróten	Meðferð við ágengum rangvexti beingerðartrefja

[1] At the time of designation