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Public summary of opinion on orphan designation

(R)-tetrahydrofuran-3-yl 4-(6-(5-(4-ethoxy-1-isopropylpiperidin-4-yl)pyridin-2-yl)pyrrolo[1,2-b]pyridazin-4-yl)piperazine-1-carboxylate sesquisuccinate for the treatment of fibrodysplasia ossificans progressiva

On 13 November 2020, orphan designation EU/3/20/2352 was granted by the European Commission to Ipsen Pharma, France, for (R)-tetrahydrofuran-3-yl 4-(6-(5-(4-ethoxy-1-isopropylpiperidin-4-yl)pyridin-2-yl)pyrrolo[1,2-b]pyridazin-4-yl)piperazine-1-carboxylate sesquisuccinate (also known as IPN60130) 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 and ligaments. It is caused by a mutation (change) in the gene for 'ACVR1', a protein involved in the formation of bone and cartilage.

Patients have episodes of pain, inflammation and swelling ('flare-ups'), often triggered by minor injury to muscles or soft tissue. This is followed by abnormal bone formation with gradual restriction of movement and onset of deformity. Patients usually require a wheelchair by the time they reach their 20s.

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 unwanted 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 less than 0.01 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 500 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).

*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, Iceland, Liechtenstein, Norway and the United Kingdom. This represents a population of 519,200,000 (Eurostat 2020).

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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 designation. Patients were advised to avoid injuries that could trigger a flare-up. Treatment of the symptoms included anti-inflammatory medicines for the pain and inflammation.

How is this medicine expected to work?

In patients with fibrodysplasia ossificans progressiva, the ACVR1 protein does not work as it should, causing formation of unwanted bone in muscles and joints throughout the body. This medicine blocks the action of abnormal ACVR1 and is therefore expected to prevent new abnormal bone formation, thus relieving the symptoms of the condition.

What is the stage of development of this medicine?

The effects of the medicine 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 fibrodysplasia ossificans progressiva had been started.

At the time of submission, the medicine was not authorised anywhere in the EU for the treatment of 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, the COMP adopted a positive opinion on 08 October 2020, 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

Contact details of the current sponsor for this orphan designation can be found on EMA website.

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.