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Palynziq (*pegvaliase*)

An overview of Palynziq and why it is authorised in the EU

What is Palynziq and what is it used for?

Palynziq is a medicine that is used to treat phenylketonuria (PKU) in adults and adolescents from 16 years of age.

Patients with this genetic disease cannot process the amino acid phenylalanine from dietary protein, and as a result the amino acid builds up in the blood to abnormally high levels, causing problems in the nervous system. Palynziq is used in patients whose blood levels of phenylalanine have not been adequately controlled with other treatments.

Palynziq was designated an 'orphan medicine' (a medicine used in rare diseases) on 28 January 2010. Further information on the orphan designation can be found here: ema.europa.eu/medicines/human/orphan-designations/eu309708.

Palynziq contains the active substance pegvaliase.

How is Palynziq used?

The medicine can only be obtained with a prescription and treatment should be started and supervised by a doctor who has experience in treating PKU. Phenylalanine blood levels must be measured before starting treatment. During treatment, monthly measurements are recommended. Palynziq is intended for long-term use.

Palynziq is available as pre-filled syringes (2.5, 10 and 20 mg) for injection under the skin. The recommended starting dose is 2.5 mg once a week for 4 weeks. The dose and frequency of injection are then increased gradually (up to a maximum dose of 60 mg once a day) to achieve adequate control of phenylalanine blood levels. Palynziq must be used with stringent measures to manage any serious allergic reactions, especially in the first few months.

For more information about using Palynziq, see the package leaflet or contact your doctor or pharmacist.

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How does Palynziq work?

The active substance in Palynziq, pegvaliase, is a bacterial enzyme that can break down phenylalanine, thereby stopping phenylalanine from building up in the body and helping to relieve the symptoms of phenylketonuria. The enzyme in pegvaliase is 'pegylated' (attached to a chemical called PEG), allowing it to remain in the body and to act for longer.

What benefits of Palynziq have been shown in studies?

The main study investigating Palynziq in patients with PKU consisted of different parts. Throughout the study, patients were required to maintain a constant level of dietary protein intake, to ensure that changes in blood phenylalanine levels could be attributed to treatment rather than to changes in protein intake.

During the first part, all patients were given Palynziq at a dose of 20 or 40 mg for up to 13 weeks. Eighty-six patients who responded to treatment (i.e. whose blood phenylalanine levels were reduced by at least 20%) where then either kept on the same dose of Palynziq or were given placebo (a dummy treatment). After 8 weeks of treatment, blood phenylalanine levels remained under control in patients taking Palynziq but they returned to pre-treatment levels in patients on placebo, showing that Palynziq was more effective than placebo in reducing blood phenylalanine levels and keeping them within an acceptable range.

In the extension phase of the study patients received an individual optimized dose of Palynziq. It was shown that for the majority of patients continued treatment with Palynziq for 18 months was effective at keeping blood phenylalanine levels under control (below 600 micromoles per litre).

What are the risks associated with Palynziq?

The most common side effects with Palynziq (which may affect more than 7 in 10 people) are reactions at the injection site, pain in the joints and allergic reactions. The most significant allergic reactions include acute systemic allergic reaction, angioedema (swelling under the skin in areas such as the face, throat, arms and legs), and serum sickness (allergic reaction caused by animal proteins or serum). For the full list of side effects of Palynziq, see the package leaflet.

Palynziq must not be used in patients who have had an allergic reaction to pegvaliase, to any of the other components of Palynziq or to any other pegylated medicine.

Why is Palynziq authorised in the EU?

Palynziq was shown to be effective at reducing levels of blood phenylalanine and keeping them under control. The safety of Palynziq is considered acceptable, and important side effects such as allergic reactions are considered manageable with additional stringent measures (see below). The European Medicines Agency therefore decided that Palynziq's benefits are greater than its risks and it can be authorised for use in the EU.

What measures are being taken to ensure the safe and effective use of Palynziq?

The company that markets Palynziq will provide information material for doctors and for patients and carers about the risk of allergic reactions with Palynziq, including how to identify them promptly and what to do in case such a reaction occurs.

Recommendations and precautions to be followed by healthcare professionals and patients for the safe and effective use of Palynziq have also been included in the summary of product characteristics and the package leaflet.

As for all medicines, data on the use of Palynziq are continuously monitored. Side effects reported with Palynziq are carefully evaluated and any necessary action taken to protect patients.

Other information about Palynziq

Palynziq received a marketing authorisation valid throughout the EU on 3 May 2019.

Further information on Palynziq can be found on the Agency's website: ema.europa.eu/medicines/human/EPAR/Palynziq.

This overview was last updated in 05-2019.