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Repatha (*evolocumab*)

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

What is Repatha and what is it used for?

Repatha is a medicine for lowering levels of fats in the blood.

It is used to reduce blood fat levels in patients with primary hypercholesterolaemia (high blood cholesterol levels caused by a genetic abnormality), homozygous familial hypercholesterolaemia (a severe form of high blood cholesterol inherited from both parents) and mixed dyslipidaemia (abnormal levels of different fats, including cholesterol).

It is also used to reduce the risk of heart problems in patients with atherosclerosis (thickened arterial walls) who have had a heart attack, stroke or other problems of the circulatory system (atherosclerotic heart disease).

Repatha is used in combination with a statin or a statin and other fat-lowering medicines. Repatha can also be used without a statin in patients who cannot take statins. Some patients are required to be on a low-fat diet.

Repatha contains the active substance evolocumab.

How is Repatha used?

Before starting treatment with Repatha, other causes of excess cholesterol and abnormal fat levels in the blood should be ruled out.

Repatha is available as a solution for injection in pre-filled syringes, pre-filled pens and cartridges. The cartridges are to be used together with an automated dosing device called a mini-doser. Injections are given under the skin of the abdomen, thigh or upper arm.

The recommended dose for adults with mixed dyslipidaemia or atherosclerotic heart disease and adults and children aged 10 years and above with primary hypercholesterolaemia is either 140 mg every two weeks or 420 mg once a month.

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For adults and children aged 10 years and above with homozygous familial hypercholesterolaemia, the initial recommended dose is 420 mg once a month. If the desired response is not achieved after 12 weeks of treatment, the dose can be increased up to 420 mg every two weeks.

The medicine can only be obtained with a prescription. Patients can self-administer the medicine once they have been properly trained.

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

How does Repatha work?

The active substance in Repatha, evolocumab, is a monoclonal antibody (a type of protein) that has been designed to attach to a protein called PCSK9. PCSK9 attaches to cholesterol receptors on the surface of liver cells, causing the receptors to be absorbed and broken down inside the cells. By attaching to PCSK9, Repatha blocks it from interacting with cholesterol receptors on the surface of liver cells. This prevents the receptors from being broken down and therefore increases their numbers on the cell surface, where they can attach to LDL-cholesterol ('bad' cholesterol) and remove it from the bloodstream. This helps to reduce the amount of cholesterol in the blood. Repatha also helps to reduce other fatty substances in the blood of patients with mixed dyslipidaemia.

What benefits of Repatha have been shown in studies?

Hypercholesterolaemia and mixed dyslipidaemia

In primary hypercholesterolaemia and mixed dyslipidaemia, Repatha was studied in nine main studies involving around 7,400 adult patients, including patients with heterozygous familial disease. Some of the studies looked at Repatha taken on its own, while others studied Repatha in combination with other fat-lowering medicines, including patients on the maximum recommended doses of statins. Some studies compared Repatha with placebo (a dummy treatment) and others with another medicine (ezetimibe). These studies found a substantial reduction in blood levels of LDL-cholesterol (around 60 to 70% more than placebo, and around 40% more than ezetimibe) from week 10 to week 12 of the study and at the end of 12 weeks.

Repatha was also studied in a main study involving 157 children aged 10 to 17 years with heterozygous familial hypercholesterolaemia. The study compared Repatha with placebo, both in combination with optimal fat-lowering therapy. This study found that Repatha reduced LDL-cholesterol in the blood by around 38% more than placebo after 24 weeks of treatment.

In homozygous familial hypercholesterolaemia, Repatha was studied in two main studies involving 155 patients, which included 14 children older than 12 years. One of these studies showed that Repatha given together with other fat-lowering medicines reduced fat levels in the blood after 12 weeks of treatment (around 15 to 32% more than placebo given on top of other fat-lowering medicines). A second study showed that long-term use of Repatha achieved a sustained reduction of fat levels in the blood in these patients during 28 weeks of treatment.

Repatha was also studied in a main study involving 13 children aged 10 to 17 years with homozygous familial hypercholesterolaemia. This study found that long-term use of Repatha, in combination with optimal fat-lowering therapy, achieved a sustained reduction in LDL-cholesterol in these children during 80 weeks of treatment.

Atherosclerotic heart disease

Repatha was studied in more than 27,500 patients with a history of established cardiovascular disease. They received either Repatha or placebo, both with an optimal fat-lowering therapy, for over 2 years on average. In the Repatha group, less than 10% (1,344 of 13,784 patients) had a cardiovascular event (meaning death, heart attack, stroke, hospitalization or surgery due to problems with the blood flow to the heart) during the study compared with just over 11% in the placebo group (1,563 of 13,780 patients).

What are the risks associated with Repatha?

The most common side effects with Repatha (which may affect up to 1 in 100 people) are nasopharyngitis (inflammation of the nose and throat), upper respiratory tract infection (nose and throat infection), back pain, joint pain, flu and reactions at the site of injection. For the full list of side effects and restrictions with Repatha, see the package leaflet.

Why is Repatha authorised in the EU?

The European Medicines Agency decided that Repatha's benefits are greater than its risks and it can be authorised for use in the EU. The Agency noted that across all studies in patients with primary hypercholesterolaemia and mixed dyslipidaemia, Repatha showed an important reduction in LDL-cholesterol levels, which is a known risk factor for cardiovascular disease. In patients with atherosclerotic heart disease, Repatha reduced the number of cardiovascular events, in particular heart attacks and strokes. The Agency also noted that for patients with homozygous familial disease there are limited treatment options, and these patients have a higher risk of cardiovascular disease. In this population, including some children over 10 years old, Repatha showed a consistent reduction in LDL-cholesterol levels beyond what can be achieved with existing fat-lowering medicines. Repatha's side effects are considered acceptable and manageable.

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

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

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

Other information about Repatha

Repatha received a marketing authorisation valid throughout the EU on 17 July 2015.

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

This overview was last updated in 11-2021.