27 March 2017
EMA/72424/2017

Public summary of opinion on orphan designation

Tauroursodeoxycholic acid for the treatment of amyotrophic lateral sclerosis

On 27 February 2017, orphan designation (EU/3/17/1844) was granted by the European Commission to Bruschettini s.r.l., Italy, for tauroursodeoxycholic acid for the treatment of amyotrophic lateral sclerosis.

What is amyotrophic lateral sclerosis?

Amyotrophic lateral sclerosis (ALS) is a progressive disease of the nervous system, where nerve cells in the brain and spinal cord that control voluntary movement gradually deteriorate, causing loss of muscle function and paralysis. The exact causes are unknown but are believed to include genetic and environmental factors. The symptoms of ALS depend on which muscles weaken most, and include loss of balance, loss of control of hand and arm movement, and difficulty speaking, swallowing and breathing. ALS usually starts in mid-life and men are more likely to develop the disease than women.

ALS is a debilitating and life-threatening disease because of the gradual loss of function and its paralysing effect on muscles used for breathing, which usually leads to death from respiratory failure.

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

At the time of designation, ALS affected not more than 1 in 10,000 people in the European Union (EU). This was equivalent to a total of not more than 52,000 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, riluzole was authorised in the EU to treat ALS. Patients also received supportive treatment, such as physiotherapy, breathing support and medicines to relieve the symptoms of the disease.

The sponsor has provided sufficient information to show that the medicine might be of significant benefit for patients with ALS. Early studies suggest that adding tauroursodeoxycholic acid to riluzole

*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 515,700,000 (Eurostat 2017).

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treatment may slow down the worsening in muscle function. 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?

Tauroursodeoxycholic acid is considered to be a 'neuroprotective' substance, which means that it protects nerve cells from damage. The way in which the medicine works is not clearly understood but it is thought to involve protecting nerve cells from dying, modifying the body's immune (defence) system, and neutralising the effects of harmful oxygen-containing substances. By reducing damage to nerve cells, the medicine is expected to slow down the worsening of symptoms in ALS.

What is the stage of development of this medicine?

The effects of tauroursodeoxycholic acid have been evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials with the medicine in patients with ALS were ongoing.

At the time of submission, the medicine was authorised in Italy for disorders of bile production.

At the time of submission, the medicine was not authorised anywhere in the EU for ALS 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 24 January 2017 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:

Contact details of the current sponsor for this orphan designation can be found on EMA website, on the medicine's rare disease designations page.

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	Tauroursodeoxycholic acid	Treatment of amyotrophic lateral sclerosis
Bulgarian	Тауроурсодеоксихолева киселина	Лечение на амиотрофична латерална склероза
Croatian	Tauroursodeoksikolična kiselina	Liječenje amiotrofične lateralne skleroze
Czech	Kyselina tauroursodeoxycholiová	Léčba amyotrofické laterální sklerózy (ALS)
Danish	Tauro ursodeoxoycholsyre	Behandling af amyotrofisk lateralsklerose
Dutch	Tauroursodeoxycholiczuur	Behandeling van amyotrofe lateraalsclerose
Estonian	Tauroursodeoksükoliinhape	Amüotroofilise lateraalskleroosi ravi
Finnish	Tauroursodeoksikoolihappo	Amyotrofisen lateraaliskleroosin hoito
French	Acide tauroursodésoxycholique	Traitement de la sclérose latérale amyotrophique
German	Tauroursodeoxycholic-Säure	Behandlung der amyotrophen Lateralsklerose
Greek	Ταυροουρσοδεοξυχολικό οξύ	Θεραπεία πλάγιας μυοατροφικής σκλήρυνσης
Hungarian	Tauroursodeoxycholsav	Amyotrophiás lateral sclerosis kezelése
Italian	Acido tauroursodesossicolico	Trattamento della sclerosi laterale amiotrofica
Latvian	Tauroursodeoksiholskābe	Amiotrofiskās laterālās sklerozes ārstēšana
Lithuanian	Tauroursodeoksicholio rūgštis	Šoninės amiotrofinės sklerozės gydymas
Maltese	Aċidu tawrursodeoksikoliku	Kura tas-sklerosi laterali amjotrofika
Polish	Kwas tauroursodeoksycholowy	Leczenie stwardnienia bocznego zanikowego
Portuguese	Ácido tauroursodesoxicólico	Tratamento da esclerose lateral amiotrófica
Romanian	Acid tauroursodeoxicolic	Tratamentul sclerozei laterale amiotrofice
Slovak	Tauroursodeoxycholová kyselina	Liečba amyotrofickej laterálnej sklerózy
Slovenian	Tauroursodeoksiholna kislina	Zdravljenje amiotrofične lateralne skleroze
Spanish	Ácido tauroursodesoxicólico	Tratamiento de la esclerosis lateral amiotrófica
Swedish	Tauroursodeoxycholic syra	Behandling av amyotrofisk lateralskleros
Norwegian	Tauroursodeoksykolsyre	Behandling av amyotrofisk lateralsklerose
Icelandic	Tauroúrsódeoxýckolic sýra	Meðferð við blandaðri hreyfitaugahrörnun

[1] At the time of designation