The urgency of diagnosing paediatric epilepsy in the era of precision medicine

Tuesday, 4 October 2022

13:00-14:00 hrs Meeting room: Kardelen 3&4 Sueno Hotels Belek, Antalya, Turkey

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Ebru Arhan - MD, PhD | Gazi University Hospital, Ankara, Turkey

Nicola Specchio - MD, PhD | Bambino Gesù Children's Hospital, Rome, Italy

Pasquale Striano - MD, PhD | Gaslini Children's Hospital, University of Genoa, Genoa, Italy

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Programme

2.5-year-old with seizures and language delay – what do you suspect? Ebru Arhan

The importance of early diagnosis: Long-term data of targeted enzyme replacement therapy for CLN2 disease Nicola Specchio

Aetiology is key: Genetic testing as a tool to expedite diagnosis in paediatric epilepsy Pasquale Striano

Q&A

Faculty & audience

Concluding remarks

Ebru Arhan



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FACULTY



Ebru Arhan is Professor at the Department of Paediatric Neurology of the Gazi University

Ebru Arhan - MD, PhD | Gazi University Hospital, Ankara, Turkey

Hospital in Ankara, Turkey. She obtained her medical degree at Çukurova University, Adana, Turkey. She completed her postgraduate training in paediatric neurology and obtained her PhD Degree in Medicine at the Gazi University. Her main focus is on epilepsy, sleep disorders and neurometabolic disorders in children. Dr. Arhan is head of the Video EEG PSG Monitoring Unit at Gazi University Hospital and she acts as the coordinator of the team of CLN2 Management and Treatment in Turkey.



Nicola Specchio - MD, PhD | Bambino Gesù Children's Hospital, Rome, Italy Dr. Nicola Specchio is Head of the Epilepsy Unit in the Department of Neuroscience at

Bambino Gesù Children's Hospital, Rome, Italy. His main interest lies with seizure semiology and the classification of epileptic seizures and syndromes. He is currently responsible for several clinical studies regarding the invasive monitoring of patients with epilepsy and the genetic aetiology of epileptic encephalopathy in the first three years of life. He is also a principal investigator in clinical trials sponsored by BioMarin. Dr. Specchio is a representative of the International League Against Epilepsy (ILAE) Europe and

of the Italian Chapter of the ILAE.

Pasquale Striano - MD, PhD | Gaslini Children's Hospital, University of Genoa,



Genoa, Italy Professor Pasquale Striano is paediatric neurologist and the director at the Department of

Pediatric Neurology and Muscle Diseases of the Gaslini Children's Hospital in Genoa, Italy.

His main field of interest is molecular genetics of idiopathic epilepsies and developmental epileptic encephalopathies, with a special interest in the clinical assessment of children with epilepsy and genotype-phenotype relationships. He has conducted translational studies on different forms of genetic epilepsies and participated as investigator in clinical trials of antiseizure drugs in patients affected by these disorders. Dr. Striano is a member of the Board of Italian League Against Epilepsy (LICE), which promotes knowledge on epilepsy disorders to improve patient care.

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alfa. Access device replacement should be considered prior to 4 years of regular administration

of cerliponase alfa, however, it must always be ensured that the intracerebroventricular access

device is used in accordance with the provisions of the respective medical device manufacturer.

In case of intracerebroventricular access device-related complications, refer to the manufacturer's labelling for further instruction. Caution should be taken in patients prone to

complications from intracerebroventricular medicinal product administration, including

patients with obstructive hydrocephalus. Anaphylactic reactions have been reported with

cerliponase alfa. As a precautionary measure, appropriate medical support should be readily available when cerliponase alfa is administered. If anaphylactic reactions occur, immediately

discontinue the infusion and initiate appropriate treatment. Observe patients closely during and after the infusion. If anaphylaxis occurs, caution should be exercised upon re-

administration. **Undesirable Effects:** Very common adverse reactions included upper respiratory tract infection, hypersensitivity, irritability, convulsion events, headache, CSF pleocytosis, vomiting, pyrexia, CSF protein increased, ECG abnormalities, CSF protein

decreased and needle issue. Common adverse reactions include conjunctivitis, device-related

infection, bradycardia, anaphylactic reaction, dropped head syndrome, abdominal pain, oral mucosal blistering, tongue blistering, gastrointestinal disorder, rash, urticaria, feeling jittery,

pain, device leakage, and device occlusion. Meningitis and device dislocation were also

reported at unknown frequency. Convulsions are a common manifestation of CLN2 disease and are expected to occur in this population. Overall, 23 (96%) subjects who received

cerliponase alfa experienced an event that mapped to the Convulsions Standardized MedDRA

Query. The most commonly reported convulsion events include seizure, epilepsy and generalized tonic-clonic seizure. Total convulsion events with a temporal relationship to

cerliponase alfa administration was 17% and were mild to moderate, grade 1 to 2 in severity.

Overall, 6% of all convulsion events were considered related to cerliponase alfa and ranged

from mild to severe, (Common Terminology Criteria for Adverse Events (CTCAE) grade 1-4).

discontinuation of cerliponase alfa treatment. Hypersensitivity reactions were reported in 14 out of 24 patients (58%) treated with cerliponase alfa. Severe CTCAE grade 3 hypersensitivity

reactions occurred in three patients and no patients discontinued treatment. The most

common manifestations included pyrexia with vomiting, pleocytosis, or irritability, which are

inconsistent with classic immunemediated hypersensitivity. These adverse reactions were

observed during or within 24 hours after completion of the cerliponase alfa infusion and did

not interfere with treatment. Symptoms resolved over time or with administration of

antipyretics, antihistamines and/or glucocorticosteroids. List of Excipients: Sodium

phosphate dibasic heptahydrate, sodium dihydrogen phosphate monohydrate, sodium

chloride, potassium chloride, magnesium chloride hexahydrate, calcium chloride dihydrate,

water for injections. Incompatibilities: This medicinal product must not be mixed with other

medicinal products. Storage and Use: Store upright in a freezer (-25°C to -15°C). Thawed

cerliponase alfa and flushing solution should be used immediately. Product should only be

withdrawn from the unopened vials immediately prior to use. If immediate use is not possible,

unopened vials of cerliponase alfa or flushing solution should be stored at 2-8°C and used

ed with standard anti-convulsive therapies and did not result

This symposium is for Healthcare Professionals only and will contain information on a BioMarin product

EU-BRIN-00160 - August 2022

Abbreviated prescribing information (INTL) BRINEURA®▼ (cerliponase alfa)

of new safety information. Healthcare professionals are asked to report any suspected adverse reactions. Name of Product: Cerliponase alfa 150 mg solution for infusion. Presentation: Each vial of

Refer to Summary of Product Characteristics for full information

cerliponase alfa contains 150 mg cerliponase alfa in 5 ml of solution (30 mg/ml). Each presentation contains two vials of cerliponase alfa, and one vial of flushing solution $Cerliponase \, alfa \, is \, a \, recombinant \, form \, of \, human \, trip eptidyl \, peptidase \, 1 \, (rh TPP 1). \, \textbf{The rapeutic}$ indications: Cerliponase alfa is indicated for the treatment of neuronal ceroid lipofuscinosis

 ${\ref{thm:product}}\ \ {\ref{thm:product}}\ \ is subject to additional monitoring. This will allow quick identification$

e 2 (CLN2) disease, also known as tripeptidyl peptidase 1 (TPP1) deficiency. **Dosage and Administration:** Cerliponase alfa must only be administered by a trained healthcare professional knowledgeable in intracerebroventricular administration in a healthcare setting. The recommended dose is 300 mg cerliponase alfa administered once every other week by intracerebroventricular infusion. In patients less than 2 years of age, lower doses are recommended, see full Summary of Product Characteristics. Cerliponase alfa and the flushing solution must only be administered by the intracerebroventricular route. Each vial of Cerliponase alfa and flushing solution are intended for single use only. Cerliponase alfa is administered to the cerebrospinal fluid (CSF) by infusion via a surgically implanted reservoir infection. Special Warnings and Precautions: Cerliponase alfa must be administered using aseptic technique to reduce the risk of infection. Intracerebroventricular access device-related treated with cerliponase alfa. Meningitis may present with the following symptoms: fever, headache, neck stiffness, light sensitivity, nausea, vomiting, and change in mental status. CSF

and catheter (intracerebroventricular access device). The intracerebroventricular access device must be implanted prior to the first infusion. The implanted intracerebroventricular access device should be appropriate for accessing the cerebral ventricles for therapeutic substance or to any of the excipients, if re-challenge is unsuccessful. CLN2 patients with ventriculo-peritoneal shunts. Cerliponase alfa must not be administered as long as there are signs of acute intracerebroventricular access device leakage, device failure, or device-related infections, including subclinical infections and meningitis, have been observed in patients samples should routinely be sent for testing to detect subclinical device infections. In clinical studies, antibiotics were administered, the intracere broventricular access device was replaced and cerliponase alfa treatment was continued. Healthcare professionals should inspect the scalp for skin integrity to ensure the intracerebroventricular access device is not compromised prior to each infusion. Common signs of device leakage and device failure include swelling, erythema of the scalp, extravasation of fluid, or bulging of the scalp around or above the intracerebroventricular access device. However, these signs may also occur in the context of device-related infections. Inspection of the infusion site and a patency check must be performed to detect intracerebroventricular access device leakage and/or failure prior to initiation of cerliponase alfa infusion. The signs and symptoms of device-related infections may not be apparent, therefore, CSF samples should routinely be sent for testing to detect

subclinical device infections. Consultation with a neurosurgeon may be needed to confirm the

integrity of the device. Cerliponase alfa treatment should be interrupted in cases of device failure and may require replacement of the access device prior to subsequent infusions.

Material degradation of the intracerebroventricular access device reservoir occurs after long

periods of use according to preliminary results of benchtop testing and as observed in clinical

trials with approximately 4 years of use. In two clinical cases, the ICV access devices did not show signs of failure at the time of infusion; however, after removal, material degradation of

the devices were apparent and consistent with data from benchtop testing of ICV access devices. The access devices were replaced and patients resumed treatment with cerliponase

within 24 hours. Preparation of cerliponase alfa Infusion: See full Summary of Product Characteristics. Legal Category: Prescription only medicine Marketing Authorisation Holder: BioMarin International Limited, Shanbally, Ringaskiddy, County Cork, Ireland. Marketing Authorisation Number(s): EU/1/17/1192/001 Date of First Authorisation: 30 May 2017 Date of Revision of the Text: February 2020.

Healthcare professionals should report adverse events in accordance with their local requirements.

Adverse events should also be reported to BioMarin on +1 415 506 6179 or drugsafety@bmrn.com