Clinical Study Results

Research Sponsor: Eisai Inc.
Drug Studied: Lorcaserin, also called E2023
Short Study Title: A study to learn if lorcaserin works to treat people with Dravet syndrome and understand its safety profile

Thank you

You or your child took part in this clinical study for the study drug E2023, also called lorcaserin. Everyone who participated helped researchers learn more about lorcaserin and if it may help people with Dravet syndrome. **Dravet syndrome** is a rare and long-term condition involving the brain. This condition causes a prolonged and severe type of epilepsy that starts in the first year of life.

Eisai, a Japanese pharmaceutical company that was the sponsor of this study, thanks you for your help. Eisai is committed to improving health through continuing research in areas of unmet need and sharing study results with participants.

Eisai has prepared this summary of the study and its results with a medical and regulatory writing organization called Certara.

If you or your child participated in this study and have questions about the results, please speak with the doctor or staff at your study site.

What has happened since the study started?

A total of 22 participants from 25 sites in Canada and the United States joined the study.

This study had 2 phases: Core Phase and Extension Phase.

During the **Core Phase**, 21 out of 22 participants took either lorcaserin or placebo. A placebo looks like lorcaserin but does not have any medicine in it. A total of 15 out of 21 participants completed their treatment.

Out of 15 participants who completed the Core Phase, 14 joined the **Extension Phase**. All participants took lorcaserin in the Extension Phase and completed their treatment.

The study started in October 2020. In August 2024, the study ended earlier than planned. This was because it was difficult to find enough participants with Dravet syndrome.

The sponsor of the study reviewed the data collected and created a report of the results. This is a summary of that report.

Why was the research needed?

Researchers were looking for a different way to treat people who have Dravet syndrome. Currently, the only treatment for Dravet syndrome are medicines that help control seizures.

The researchers in this study wanted to find out if lorcaserin can reduce convulsive seizures in people with Dravet syndrome. A **convulsive seizure** is when a person suddenly loses control of their body and starts shaking or jerking uncontrollably. They also wanted to find out if participants had any medical problems during the study.

The main questions the researchers wanted to answer in this study were:

- Did participants who took lorcaserin have fewer convulsive seizures every 4 weeks than those who took a placebo?
- What adverse reactions did participants receiving lorcaserin have? An adverse reaction is a medical problem that may be caused by the study treatment.

It is important to know that this study was designed to get accurate answers to the questions listed above. There were other questions the researchers wanted to answer to learn more about how lorcaserin works, but these were not the main questions the study was designed to answer.

What kind of study was this?

To answer the main questions above, researchers asked for the help of participants who were at least 2 years old and had convulsive seizures because of Dravet syndrome. Of these participants who started the study, 55% were male and 45% were female.

During the **Core Phase**, a computer program was used to assign participants to a treatment group:

- **Lorcaserin Group**: Participants took lorcaserin.
- **Placebo Group**: Participants took placebo.

Participants in the Core Phase took lorcaserin or placebo as a suspension twice per day based on their body weight. A suspension is a liquid with solid particles (medicine) in it.

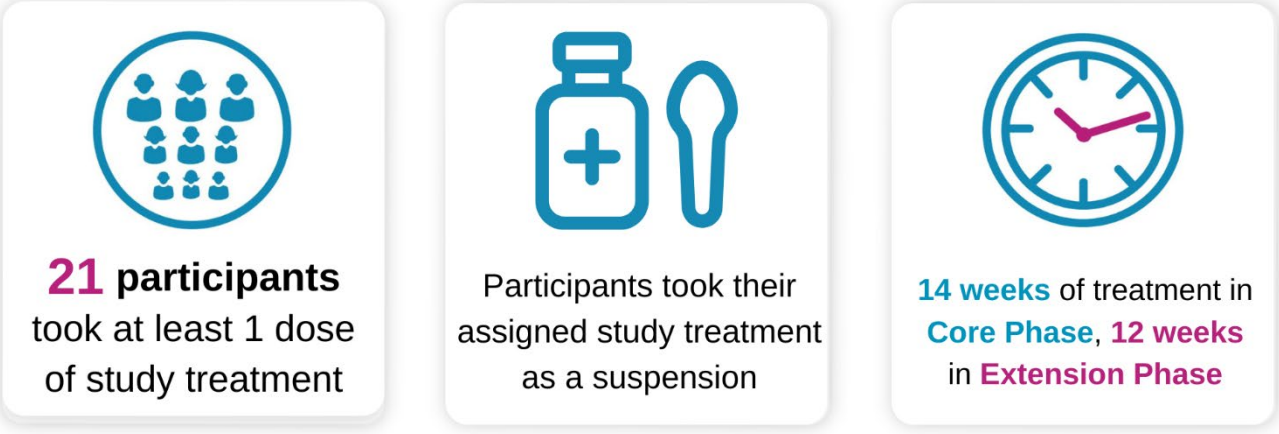
The Core Phase was "double-blind." This means that the participants, the study doctors and staff, and the sponsor did not know whether participants took lorcaserin or placebo until this phase was over. The Core Phase lasted for 14 weeks.

Participants who completed the Core Phase entered the **Extension Phase**. During this phase, participants took lorcaserin based on their weight.

- **Lorcaserin/Lorcaserin Group**: Participants who took lorcaserin in the Core Phase continued to take lorcaserin.
- **Placebo/Lorcaserin Group**: Participants who took placebo in the Core Phase were switched to lorcaserin.

This phase was **"Open-label."** This means participants, the study doctors and staff, and the sponsor knew that participants were taking lorcaserin. The Extension Phase lasted for 12 weeks.

The figure below shows how treatment was given in the study.



What happened during the study?

Before the treatment started, the study doctors did a full check-up to make sure each participant could join the study.

The study doctors and staff also:

- Confirmed that participants have convulsive seizures because of Dravet syndrome
- Took blood and urine samples for testing
- Gave seizure diaries and asked participants or their caregivers to complete them

During the treatment period in either phase, participants received their assigned dose of study treatment (lorcaserin or placebo) for 14 weeks in the Core Phase and 12 weeks in the Extension Phase.

Throughout the treatment period, the study doctors:

- Checked participants' seizure diaries to see whether the number of convulsive seizures changed with study treatment
- Asked about medical problems participants experienced and other medicines that participants took

About 4 weeks after their last dose in either phase, all participants returned to the study site. During this visit, the study doctors or staff asked about medical problems participants had experienced and medicines that participants took.

The figure below shows how the study was done.

How did this study work?

Before the treatment period

The study doctors or staff:

- Checked each participant's health to make sure they could join the study
- Confirmed that participants have convulsive seizures because of Dravet syndrome
- Gave seizure diaries and asked participants or their caregivers to complete them

During the treatment period

All participants took their assigned study treatment.

The study doctors or staff:

- Checked participants' seizure diaries to see whether the number of convulsive seizures changed with study treatment
- Asked about medical problems participants experienced and other medicines that participants took

After the treatment period

All participants returned to study sites **4 weeks** after their last dose of the study treatment.

During this visit, the study doctors or staff asked participants about medical problems they experienced and other medicines they took.

What were the results of the study?

This is a summary of the main results of this study. Each participant's individual results were different and unique to them. Individual results are not given separately in this summary, but all participants' results are summarized together here. A full list of the questions researchers wanted to answer can be found on the websites listed at the end of this summary. If a full report of the study results is available, it can also be found on these websites.

Researchers look at the results of many studies to decide which treatment options may work best and are well tolerated by patients. Other studies may provide new information or different results. Always talk to a doctor before making any treatment decisions.

Did participants who took lorcaserin have fewer convulsive seizures every 4 weeks than those who took a placebo?

To answer this question, the study doctors looked at the participants' seizure diaries during the Core Phase to see if lorcaserin reduced the number of convulsive seizures every 4 weeks.

Study doctors counted the number of seizures 4 weeks before **participants** started taking study treatment and every 4 weeks after taking study treatment for 14 weeks. Study doctors then compared the results of participants who took lorcaserin with those who took placebo.

After 14 weeks of treatment in the Core Phase, participants in the lorcaserin group had **fewer** convulsive seizures every 4 weeks compared to those in the placebo group.

What medical problems did participants have?

Medical problems that happen to participants in clinical studies are called "adverse events". If the study doctors thought an adverse event was caused by the study drug, it is called an "adverse reaction". Adverse reactions are considered "serious" if the participant needs to be admitted to a hospital, if they are life-threatening, or if they cause lasting health problems.

This section is a summary of the adverse reactions that happened during this study. The websites listed at the end of this summary may have more information about these. A lot of research is needed to know whether a drug may cause a particular medical problem.

How many participants had adverse reactions?

The table below shows how many participants had adverse reactions in the **Core Phase**.

Adverse Reactions in the Core Phase

	Out of 11 participants who received lorcaserin	Out of 10 participants who received placebo
How many participants had adverse reactions?	3 (27%)	1 (10%)
How many participants had serious adverse reactions?	0 (0%)	0 (0%)
How many participants stopped taking lorcaserin or placebo because of adverse reactions?	0 (0%)	1 (10%)

The most common adverse reaction in the **Core Phase** was decreased appetite – reported by 3 participants in the **lorcaserin** group.

- Three (3) participants in the lorcaserin group also experienced 3 different adverse reactions. The adverse reactions were a hard time passing stool, feeling tired, and a lack of energy.
- One (1) participant in the placebo group had 2 different adverse reactions. The adverse reactions were seizures and feeling aggressive.

The table below shows how many participants had adverse reactions in the **Extension Phase**.

Adverse Reactions in the Extension Phase

	Out of 7 participants who received lorcaserin/ lorcaserin	Out of 7 participants who received placebo/ lorcaserin
How many participants had adverse reactions?	0 (0%)	2 (29%)
How many participants had serious adverse reactions?	0 (0%)	0 (0%)
How many participants stopped taking lorcaserin or placebo because of adverse reactions?	0 (0%)	0 (0%)

Two (2) participants in the **placebo/lorcaserin** group had adverse reactions. The adverse reactions were:

- problems with walking
- moving more slowly than usual
- feeling thirsty
- feeling sleepy

How has this study helped patients and researchers?

In this study, researchers learned more about how lorcaserin may have helped people with Dravet syndrome. Researchers look at the results of many studies to decide which treatment options may work best and are well tolerated. This summary shows only the main results from this one study. Other studies may provide new information or different results.

Further clinical studies with lorcaserin are not planned.

Where can I learn more about the study?

You can find more information about this study on the websites listed below. If a full report of the study results is available, it can also be found here:

- http://www.clinicalstudies.gov - Once you are on the website, type **NCT04572243** into the search box and click "**Search**".

Full study title: A Multicenter, Double-Blind, Randomized, Placebo-Controlled, Parallel-Group Study with Open-Label Extension Phase of Lorcaserin as Adjunctive Treatment in Subjects with Dravet Syndrome

Protocol number: E2023-A001-304

Eisai, the sponsor of this study, has headquarters in Tokyo, Japan, and regional headquarters in Nutley, New Jersey, USA and Hatfield, Hertfordshire, UK. The phone numbers for general information are +1-888-274-2378 (USA) and +44-845-676-1400 (UK).

Thank you

Eisai would like to thank you for your time and interest in participating in this clinical study. Your participation has provided a valuable contribution to research and improvement in health care.

Eisai Co., Ltd. is a global research and development-based pharmaceutical company headquartered in Japan. We define our corporate mission as "to give first thought to patients and the people in the daily living domain, and increase the benefits that health care provides to them as well as meet diverse healthcare needs worldwide", which we call our human health care (*hhc*) philosophy. With over 10,000 employees working across our global network of R&D facilities, manufacturing sites, and marketing subsidiaries, we strive to realize our *hhc* philosophy by delivering innovative products in multiple therapeutic areas with high unmet medical needs, including oncology and neurology. For more information, please visit http://www.eisai.com.

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