Clinical Study Results

CSL Behring

Research Sponsor: CSL Behring

Drug Studied: CSL830

Short Study Title: A study to find out how safe CSL830 is and how it works for people with hereditary angioedema

Thank you!

Thank you for taking part in the clinical study for the drug CSL830, also called HAEGARDA® or C1-esterase inhibitor. You and all of the participants helped study doctors learn more about how CSL830 prevents attacks in people with hereditary angioedema, also called HAE.

CSL Behring sponsored this study and thinks it is important to share the results of the study with you and the public. An independent nonprofit organization called CISCRP and a medical writing organization called Synchrogenix helped prepare this summary of the study results for you. We hope it helps you understand and feel proud of your important role in medical research.

If you have questions about the results, please speak with the doctor or staff at your study site.

What is happening with the study now?

You were in the study for up to 45 weeks, but the entire study took almost 2 years to finish. The study started in December 2013 and ended in October 2015.

The study included 90 participants in Australia, Canada, Czech Republic, Hungary, Israel, Italy, Romania, Spain, the United Kingdom, and the United States.

CSL Behring reviewed the data collected when the study ended and created a report of the results. This is a summary of the main results of that report.

Why was the research needed?

Researchers are looking for a better way to prevent HAE attacks. HAE is a rare condition that people are born with that causes attacks of swelling under the skin and in tissues in the stomach, neck, throat, face, arms, and legs.

CSL830 is made with a protein that prevents swelling. People with HAE are either missing this protein, or they have the protein but it does not work correctly. Either of these things can cause HAE attacks.

Before a drug can be approved for patients to take, study doctors do clinical studies to find out how it works and if it is safe. Before CSL830, treatments for HAE that use the protein to prevent attacks had to be given directly into a vein.

In this study, doctors wanted to learn more about CSL830 given as an injection under the skin to prevent HAE attacks. They wanted to find out if it works as prophylactic (preventative) treatment in a large number of participants with HAE. They also wanted to find out if participants had any medical problems that might be related to taking CSL830.

The main questions study doctors wanted to answer in this study were:

- How many HAE attacks did participants have while taking and not taking CSL830?
- What medical problems did participants have during the study?

What kind of study was this?

To answer the questions in this study, study doctors asked for the help of people with HAE. The participants in this study were men, women, and children ages 12 to 72. All participants had at least 4 HAE attacks over the course of 2 of the previous 3 months before they joined the study. If participants were already taking medicines for their HAE symptoms in the 3 months before joining the study, they had to have at least 4 HAE attacks over any 2-month period before starting those medicines.

This study compared CSL830 to a placebo. A placebo looks like a drug but does not have any medicine in it. There were 2 different doses of CSL830. There was a placebo for each of the doses of CSL830. The study used a placebo to help make sure any of the effects seen in the participants who take the study drug are actually related to the study drug.

The participants who finished the study took both CSL830 and the placebo. However, they took each one in a different part of the study. The study used a computer program to randomly choose in which part of the study each participant took CSL830 and the placebo treatment.

This was a “double-blind” study. This means that none of the participants, doctors, or other study staff knew what treatment each participant took during the study. Some studies are done this way because knowing what treatment the participants are getting can affect the results of the study. When the study ended, CSL Behring was provided information as to which treatment participants took so they could create a report of the study results.

What happened during the study?

Before the study started, the doctors did a physical exam and asked about your health to make sure you could join the study. They also checked how often you suffer from HAE attacks.

During the study, you used a study diary to keep track of your days with HAE symptoms and what medicines you took.

You visited the study center up to 16 times. At each visit:

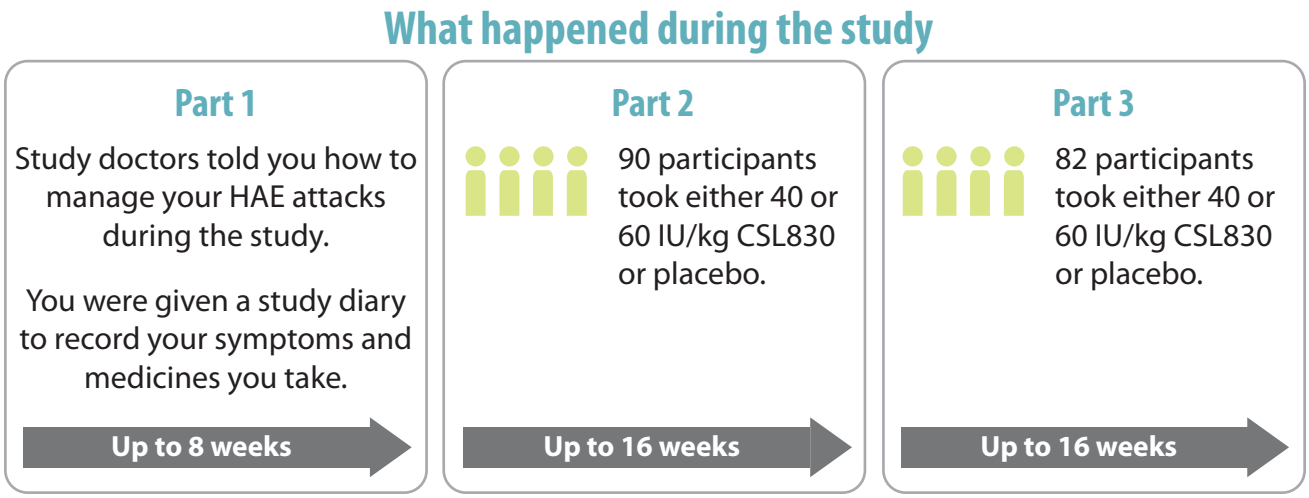
- The doctors reviewed your diary, examined you, and took blood and urine samples.
- The doctors asked how you were feeling, if you had any health problems, and how well you thought the study medicine was working.
- The doctors assessed how well they thought the study drug was working

The study had 3 parts.

- Part 1 lasted up to 8 weeks. During Part 1, the doctors checked how often you had an HAE attack. During this part, you continued taking any medicines you needed to treat HAE attacks. But you could not take any medicines to prevent any HAE attacks.
- Part 2 and Part 3 each lasted up to 16 weeks. During these parts, you gave yourself an injection in your stomach area twice a week of CSL830 or the placebo. The injections contained different amounts of the treatment depending on which part of the study you were in. These amounts were measured in international units per kilogram, also called IU/kg.

About 1 week after the last treatment visit, you had a final study visit. During this visit, the study doctors checked your health again.

The figure below shows how the study was done.



What were the results of the study?

This is an overall summary of the main results from this study. The results each participant had might be different from the overall summary results. You can find a full list of the questions study doctors wanted to answer, as well as a full report of the study results on the websites listed at the end of this summary.

It takes many studies to decide which treatments work best and are safest. Other studies may provide new information or different results.

How many HAE attacks did participants have?

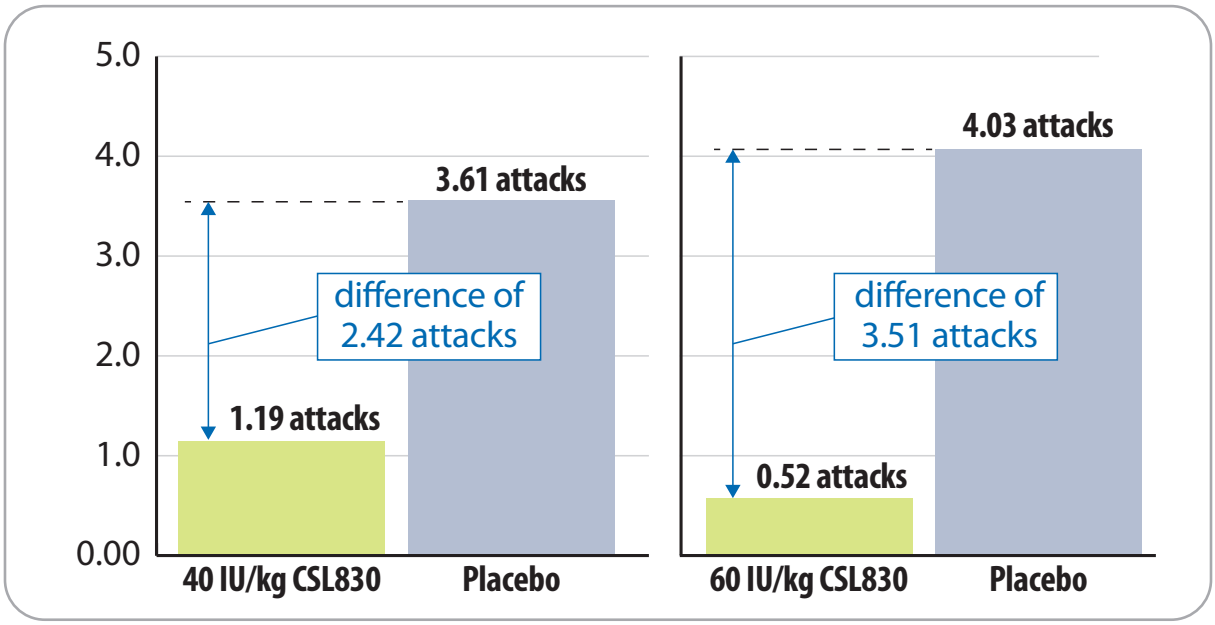
During Parts 2 and 3, participants who took CSL830 had fewer HAE attacks compared to when they took the placebo.

The study doctors compared the number of HAE attacks participants had each month while taking CSL830 to the number they had while taking the placebo. They found that:

- Participants who took a 40 IU/kg dose of CSL830 had 2.42 fewer HAE attacks on average each month taking CSL830 compared to the placebo.
- Participants who took a 60 IU/kg dose of CSL830 had 3.51 fewer HAE attacks on average each month taking CSL830 compared to the placebo.

The graph below shows the average number of HAE attacks each month during the study. It also shows the difference between CSL830 and the placebo.

Average number of HAE attacks each month



What medical problems did participants have?

Medical problems that study doctors thought may be caused by the treatment are called “adverse reactions”. An adverse reaction is considered “serious” when it is life-threatening, causes lasting problems, is medically significant, requires hospital care, or results in death.

During the study, doctors thought these adverse reactions might be caused by CSL830, but more research is needed to know whether a treatment actually causes an adverse reaction. The websites listed at the end of this summary have more information about the adverse reactions that happened in this study.

How many participants had serious adverse reactions?

No participant had a serious adverse reaction.

How many participants had adverse reactions?

The table below shows how many participants in the study had adverse reactions. Adverse reactions are medical problems that the study doctors thought were related to treatment.

Adverse reactions in this study

	40 IU/kg CSL830 (Out of 43 participants)	60 IU/kg CSL830 (Out of 43 participants)	Combined Placebo (Out of 86 participants)
How many participants had adverse reactions?	32.6% (14)	34.9% (15)	25.6% (22)
How many participants had serious adverse reactions?	0.0% (0)	0.0% (0)	1.2% (1)
How many participants stopped treatment because of adverse reactions?	0.0% (0)	2.3% (1)	1.2% (1)

What adverse reactions did the participants have?

Adverse reactions are medical problems that the study doctors thought were related to treatment. The most common adverse reactions were reactions where the injection was given. This happened in 34 out of 90 (37.8%) of the participants. The table below shows all the adverse reactions that the study doctors thought were related to treatment that happened in at least 5% of participants in any treatment group.

Most common adverse reactions in this study

Adverse reaction	40 IU/kg CSL830 (Out of 43 participants)	60 IU/kg CSL830 (Out of 43 participants)	Combined Placebo (Out of 86 participants)
Redness where the injection was given	16.3% (7)	18.6% (8)	14.0% (12)
Pain where the injection was given	16.3% (7)	16.3% (7)	10.5% (9)
Fluid build-up where the injection was given	11.6% (5)	0.0% (0)	3.5% (3)
Bleeding where the injection was given	7.0% (3)	2.3% (1)	4.7% (4)
Hardening of the skin where the injection was given	7.0% (3)	9.3% (4)	2.3% (2)
Bruising where the injection was given	4.7% (2)	7.0% (3)	5.8% (5)
Swelling where the injection was given	2.3% (1)	9.3% (4)	4.7% (4)

How has this study helped patients and researchers?

In this study, doctors learned about CSL830 as a treatment for patients with HAE. During Parts 2 and 3, participants who took CSL830 had fewer HAE attacks than participants who took the placebo.

Researchers conduct many studies to decide which treatment dose works best and is the safest for patients. This summary shows only the main results from one study. Other studies may provide new information or different results.

Further clinical studies with CSL830 as a treatment for HAE are not planned.

Always talk to your doctor before making any treatment changes.

Where can I learn more about this study?

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

- www.clinicaltrials.gov
- www.clinicaltrialsregister.eu

The full title of your study is: A double-blind, randomized, placebo-controlled, crossover study to evaluate the clinical efficacy and safety of subcutaneous administration of human plasma-derived C1-esterase inhibitor in the prophylactic treatment of hereditary angioedema

The protocol number of your study is: CSL830_3001

CSL Behring sponsored this study and has its headquarters at 1020 First Avenue, King of Prussia, PA 19406 USA. The phone number for the CSL Behring Information Center is 610-878-4000. The email address for CSL Behring Clinical Trial information is clinicaltrials@cslbehring.com.

Thank you

Clinical study participants belong to a large community of people who take part in clinical research around the world. They help researchers answer important health questions and find medical treatments for patients.

CISCRP

The Center for Information & Study on Clinical Research Participation (CISCRP) is a non-profit organization focused on educating and informing the public about clinical research participation. CISCRP is not involved in recruiting participants for clinical studies, nor is it involved in conducting clinical studies.

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