Clinical Study Results

AstraZeneca

Research Sponsor: AstraZeneca

Drug Studied: Anifrolumab

Study Title: A study to find out if anifrolumab reduces lupus symptoms in participants with lupus

Thank you!

Thank you to the participants who took part in the clinical study for the study drug anifrolumab, also called MEDI-546. All the participants helped researchers learn more about anifrolumab to help people with systemic lupus erythematosus, also called lupus or SLE.

AstraZeneca sponsored this study and thinks it is important to share the results of the study with the participants and the public. An independent non-profit organization called CISCRP helped prepare this summary of the study results. We hope it helps you understand and feel proud of your important role in medical research.

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

What is happening with the study now?

Participants were in the study for up to 64 weeks, but the entire study took more than 3 years to finish. The study started in June 2015 and ended in July 2018.

The study included a total of 457 participants from Argentina, Australia, Brazil, Chile, Colombia, Germany, Hungary, Israel, Italy, New Zealand, Peru, Poland, Romania, South Korea, Taiwan, Ukraine, the United Kingdom, and the United States.

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

Why was the research needed?

Researchers are looking for a better way to treat lupus. Before a drug can be approved for patients to take, researchers do clinical studies to find out how safe it is and how it works.

In this study, the researchers wanted to find out if anifrolumab works in a large number of participants with lupus. They also wanted to find out if the participants had any medical problems possibly related to the drug during the study.

Lupus is a disease of the immune system. This means that the body's natural defense system attacks healthy tissues. Lupus causes inflammation in the joints, in the skin and in other organs. Researchers think that specific proteins in the body called "type 1 interferon" are involved in the inflammation that is caused by lupus. Anifrolumab stops the type 1 interferon proteins from sending signals through the body. Researchers think that this could reduce inflammation in patients with lupus.

In this study, researchers wanted to find out if giving the participants anifrolumab with their current lupus treatment would reduce their lupus symptoms.

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

- Did anifrolumab improve the participants' lupus symptoms that were the focus of the study?
- What medical problems did the participants have during the study?

To answer the questions in this study, researchers asked for the help of men and women with moderate to severe active lupus, which was based on many different measures of lupus disease activity. They were already getting lupus treatment that did not reduce their symptoms. Patients with lupus who had other diseases that can affect the study results were not included. The participants in this study were 18 to 69 years old.

What kind of study was this?

This was a “double-blind” study. This means none of the participants, doctors or other study staff knew what treatment each participant received. 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, AstraZeneca found out which treatment the participants took so they could create a report of the study results.

In this study, the participants kept getting their usual lupus treatment, and also got either:

- 300 milligrams, also called mg, of anifrolumab
- 150 mg of anifrolumab
- a placebo

A placebo looks like a drug but does not have any medicine in it. Researchers use a placebo to help make sure any of the effects they see in the participants who take the drug are actually caused by the drug.

Anifrolumab and the placebo were each given through a needle into a vein. This is called intravenous infusion, also called IV infusion. The IV infusion took at least 30 minutes.

A computer program was used to randomly choose the treatment each participant received. This helps make sure the groups are chosen fairly. Researchers do this so that comparing the results of each treatment is as accurate as possible.

What happened during the study?

Before the participants got study treatment, the doctors checked the overall health of the participants to make sure that they could join the study.

The doctors:

- did a physical exam
- checked the participants' heart health using an electrocardiogram, also known as an ECG
- took blood and urine samples
- did a chest X-ray
- did a blood test to make sure the participants did not have tuberculosis, HIV, hepatitis or were pregnant
- checked the participants' lupus symptoms
- reviewed the participants' lupus and other medications

During the study, the participants visited the study site once every 4 weeks, for a total of 13 visits.

At each visit, the doctors:

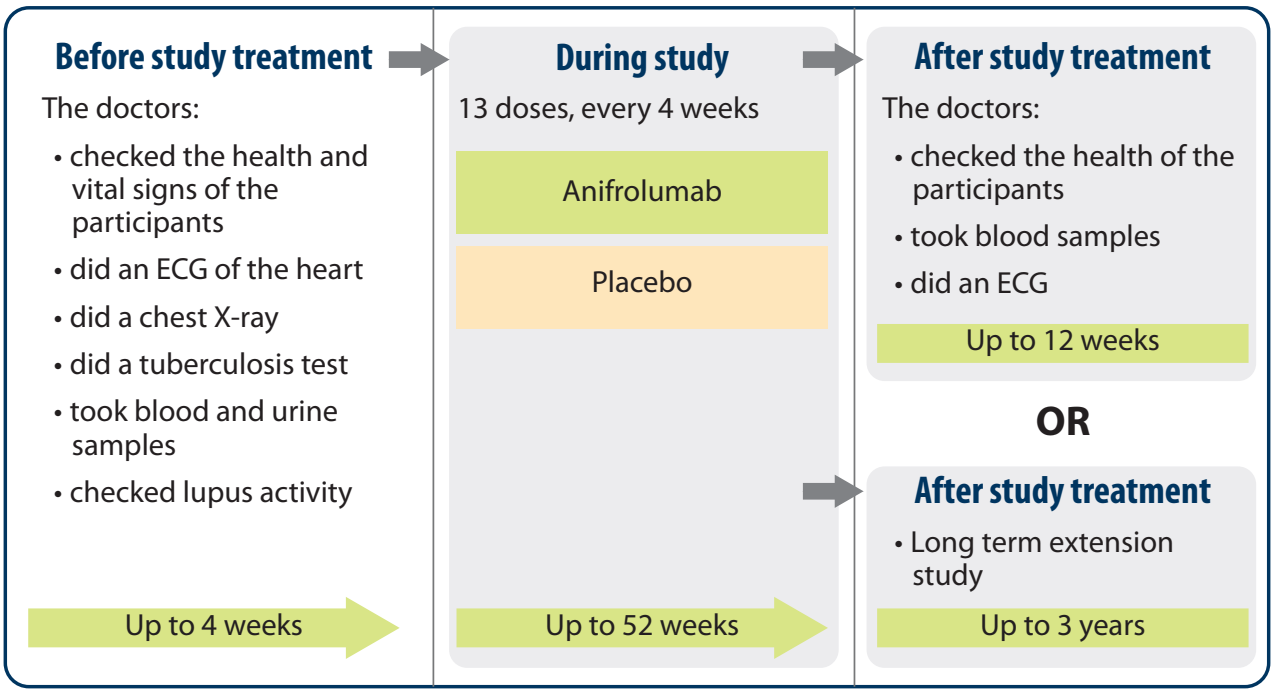
- did a physical exam and checked the participants' overall health
- checked the participants' skin for signs of lupus and checked their joints to see if they were tender or swollen
- gave the participants anifrolumab or the placebo through IV infusion

At some visits, the doctors did an ECG or took blood samples.

Throughout the study, the doctors asked the participants to complete different questionnaires about how they were feeling.

After the participants got the last dose of study treatment, the doctors checked their overall health. They took a blood sample and did an ECG.

At the end of the study, some participants joined another anifrolumab study right away. This decision was made by the doctor, in discussion with the participant. It also depended on if specific criteria were met. The rest of the participants stopped getting anifrolumab and visited the study site 2 more times for follow up. At these visits, the doctors checked their overall health. The figure below shows what happened during the study.



What were the results of the study?

This is a summary of the main results from this study overall. The results each participant had might be different and are not in this summary. 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 treatments work best and are safest. Other studies may provide new information or different results. Always talk to a doctor before making any treatment changes.

From the 457 participants in the study, the results below only include information for the participants who received 300 mg anifrolumab dose or the placebo.

Did anifrolumab improve the participants' lupus symptoms that were the focus of the study?

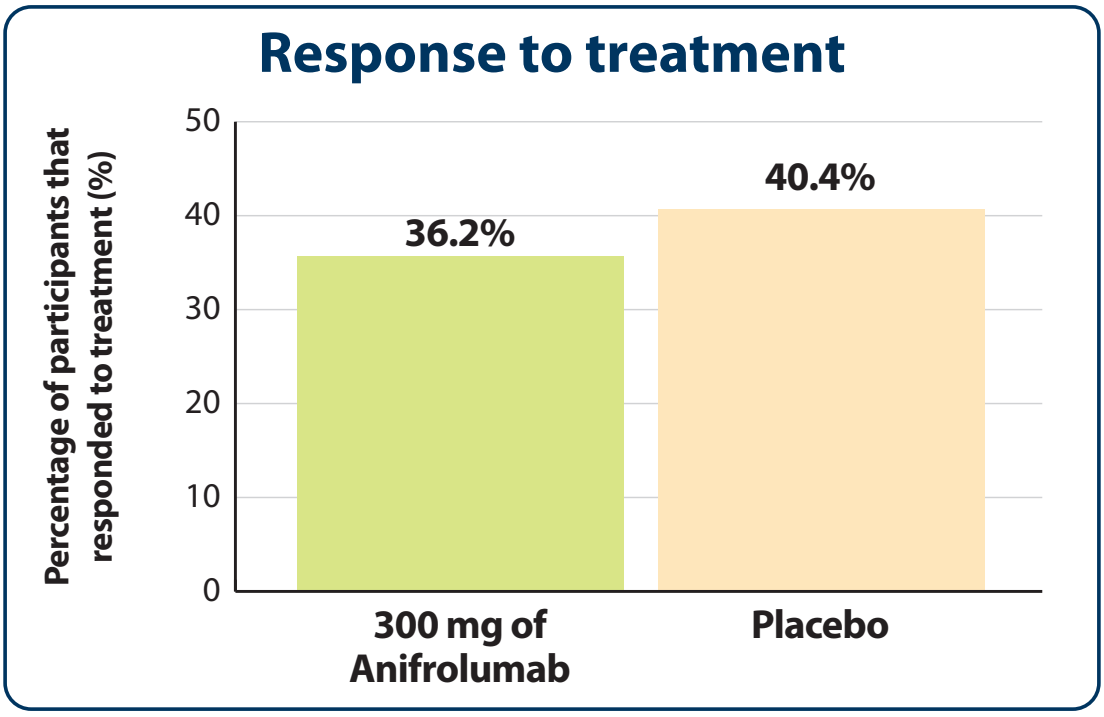
No. Anifrolumab did not improve the participants' lupus symptoms that were the focus of the study, when given with the participants' usual lupus treatment.

During the study, the doctors were asked to complete a number of questionnaires about all of the lupus symptoms that the participants had and their effects on them, such as on pain or on the skin. The researchers used all of these measurements from the questionnaires to calculate a "disease activity score". If the participants' disease activity scores were reduced by 4 or more points, it meant that they had fewer lupus symptoms. If this happened, they were considered "SLE responders."

The researchers found that, after 52 weeks of getting study treatment:

- 36.2% of participants who got 300 mg anifrolumab were SLE responders. This was 65 out of 180 participants.
- 40.4% of the participants who got the placebo were SLE responders. This was 74 out of 184 participants.

The chart below shows the results.



What medical problems did the participants have during the study?

This section is a summary of the medical problems the participants had during the study that the study doctors thought might be related to the study drug. These medical problems are called “adverse reactions”. An adverse reaction is considered “serious” when it is life-threatening, causes lasting problems, or requires hospital care.

These adverse reactions may or may not be caused by study drug. A lot of research is needed to know whether a drug causes an adverse reaction.

The websites listed at the end of this summary may have other information about adverse reactions or other medical problems that happened during this study.

The information below includes all 457 participants, since every participant got at least 1 infusion of study treatment.

How many participants had serious adverse reactions?

There were 2.8% of participants who had serious adverse reactions during the study. This was 13 out of 457 participants.

- 4.3% of participants who got 150 mg of anifrolumab had serious adverse reactions during the study. This was 4 out of 93 participants.
- 1.7% of participants who got 300 mg of anifrolumab had serious adverse reactions during the study. This was 3 out of 180 participants.
- 3.3% of participants who got the placebo had serious adverse reactions during the study. This was 6 out of 184 participants.

None of the participants died due to serious adverse reactions during the study.

The table below shows the serious adverse reactions during the study.

Serious adverse reactions during the study

	Anifrolumab 150 mg (out of 93 participants)	Anifrolumab 300 mg (out of 180 participants)	Placebo (out of 184 participants)
Infection of the blood	1.1% (1)	0.0% (0)	0.5% (1)
Extreme allergic reaction	1.1% (1)	0.0% (0)	0.0% (0)
Pneumonia	1.1% (1)	0.0% (0)	0.0% (0)
Breast cancer	1.1% (1)	0.0% (0)	0.0% (0)
Build-up of fluid	0.0% (0)	0.6% (1)	0.0% (0)
Genital herpes	0.0% (0)	0.6% (1)	0.0% (0)
Infection of the main airways of the lungs	0.0% (0)	0.6% (1)	0.0% (0)
Inflammation of the sinuses	0.0% (0)	0.0% (0)	0.5% (1)
Spread of lupus to the brain	0.0% (0)	0.0% (0)	0.5% (1)
Infection of the colon	0.0% (0)	0.0% (0)	0.5% (1)
Increased lupus disease activity	0.0% (0)	0.0% (0)	0.5% (1)
Inflammation of the testicles	0.0% (0)	0.0% (0)	0.5% (1)

How many participants had adverse reactions?

There were 28.4% of participants who had adverse reactions during the study. This was 130 out of 457 participants.

- 35.5% of participants who got 150 mg of anifrolumab had adverse reactions during the study. This was 33 out of 93 participants.
- 30.6% of participants who got 300 mg of anifrolumab had adverse reactions during the study. This was 55 out of 180 participants.
- 22.8% of participants who got the placebo had adverse reactions during the study. This was 42 out of 184 participants.

There were 2.4% of participants who stopped getting treatment due to adverse reactions they had during the study. This was 11 out of 457 participants.

- There were 4.3% of participants who stopped getting 150 mg anifrolumab because of adverse reactions they had during the study. This was 4 out of 93 participants.
- There were 2.8% of participants who stopped getting 300 mg of anifrolumab because of adverse reactions they had during the study. This was 5 out of 180 participants.
- There were 1.1% of participants who stopped getting the placebo because of adverse reactions they had during the study. This was 2 out of 184 participants.

What adverse reactions did the participants have?

The most common adverse reaction was a reaction where the study drug was infused.

The table below shows the most common adverse reactions that happened in more than 2% of participants during the study. There were other adverse reactions, but these happened in fewer participants.

Most common adverse reactions during the study

	Anifrolumab 150 mg (out of 93 participants)	Anifrolumab 300 mg (out of 180 participants)	Placebo (out of 184 participants)
Reaction where the study drug was infused	8.6% (8)	7.8% (14)	7.1% (13)
Allergies	4.3% (4)	5.6% (10)	1.1% (2)
Shingles	4.3% (4)	5.0% (9)	0.0% (0)
Infection of the upper airways	3.2% (3)	3.3% (6)	4.9% (9)
Urinary tract infection	2.2% (2)	2.2% (4)	3.3% (6)
Lung infection	3.2% (3)	1.1% (2)	0.5% (1)
Sore throat	3.2% (3)	2.2% (4)	0.5% (1)
Inflammation of the sinuses	3.2% (3)	0.6% (1)	3.3% (6)
Pneumonia	2.2% (2)	0.0% (0)	0.5% (1)
Stomach bug	2.2% (2)	0.0% (0)	0.0% (0)
Cold sores	0.0% (0)	2.8% (5)	1.6% (3)
Headache	0.0% (0)	2.2% (4)	1.1% (2)
Muscle pain	2.2% (2)	0.0% (0)	0.0% (0)
Fever	2.2% (2)	1.1% (2)	0.0% (0)

How has this study helped patients and researchers?

This study helped researchers learn more about using anifrolumab in participants with lupus.

Researchers look at the results of many studies to decide which treatments work best and are safest. This summary shows only the main results from this one study. Other studies may provide new information or different results.

Further clinical studies with anifrolumab are planned.

Where can I learn more about this 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.

- www.clinicaltrials.gov Once you are on this website, type **"NCT02446912"** into the search box and click **"Search"**.
- www.clinicaltrialsregister.eu Once you are on the website, click **"Home and Search"**, then type **"2014-004633-96"** in the search box and click **"Search"**.
- www.AstraZenecaClinicalTrials.com. Once you are on the website, type **"D3461C00005"** into the search box, and click **"Find a Study"**.

Full Trial Title: A Multicentre, Randomised, Double-blind, Placebo-controlled, Phase 3 Study Evaluating the Efficacy and Safety of Two Doses of Anifrolumab in Adult Subjects with Active Systemic Lupus Erythematosus

National Clinical Trials number: NCT02446912

AstraZeneca Protocol Number: D3461C00005

AstraZeneca sponsored this study and has its headquarters in Gaithersburg, US.

The phone number for the AstraZeneca Information Center is +1 877 240 9479.

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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