Clinical Study Results

Research Sponsor: AstraZeneca AB

Drug Studied: Anifrolumab

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

Thank you!

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

AstraZeneca AB sponsored this study and thinks it is important to share the results of the study with you and the public. An independent non-profit organization called CISCRP 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 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?

The participants were in the study for up to 15 months, but the entire study took more than 3 years to finish. The study started in July 2015 and ended in December 2018.

This study included a total of 373 participants from Argentina, Belgium, Brazil, Bulgaria, Canada, France, Germany, Japan, Lithuania, Mexico, Russia, South Africa, South Korea, Spain, 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 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 interferons" 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, the researchers wanted to find out if giving the participants anifrolumab with their current lupus treatment would improve 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, the 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. People with lupus who had other diseases that could 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 got. 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 got 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
- 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 get 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 about 30 minutes.

A computer program was used to randomly choose the treatment each participant got. 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.

There were 11 participants who were not included in the main results. Of the remaining 362 participants, there were 180 participants getting anifrolumab and 182 participants getting a placebo.

What happened during the study?

Before the participants got study treatment, they visited their study site once, up to 4 weeks before the study started. At this visit, 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 blood test to make sure the participants did not have tuberculosis, HIV, hepatitis, or were pregnant
- checked the participants' lupus symptoms
- reviewed the participants' medications, including ones they were taking for lupus

Some participants also needed a chest X-ray to see if they could join the study.

While the participants got study treatment, they visited the study site once every 4 weeks for a total of 14 visits. At the first 13 visits, the doctors gave the participants anifrolumab or the placebo through IV infusion. At each visit, the doctors also:

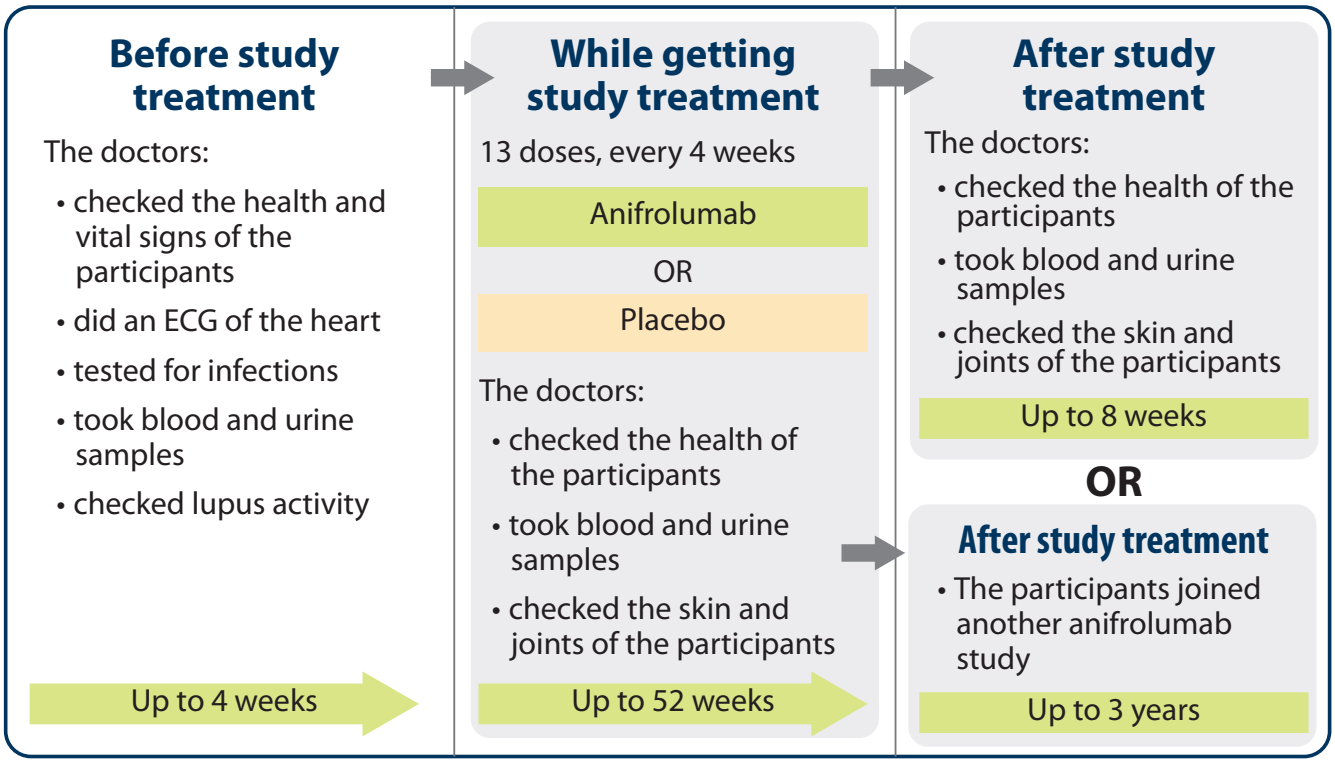
- did a physical exam and checked the participants' overall health
- took blood and urine samples
- checked the participants' skin for signs of lupus and checked their joints to see if they were tender or swollen

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

After the participants finished getting the study treatment, some participants joined another anifrolumab study right away. The decision to join the other study was made by the doctors with each individual 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.

At these visits, the doctors checked their overall health and took blood and urine samples. They checked the participants' lupus symptoms and asked them to complete the questionnaires.

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.

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

Yes. Anifrolumab did improve the participants' lupus symptoms when given with the participants' usual lupus treatment in this study.

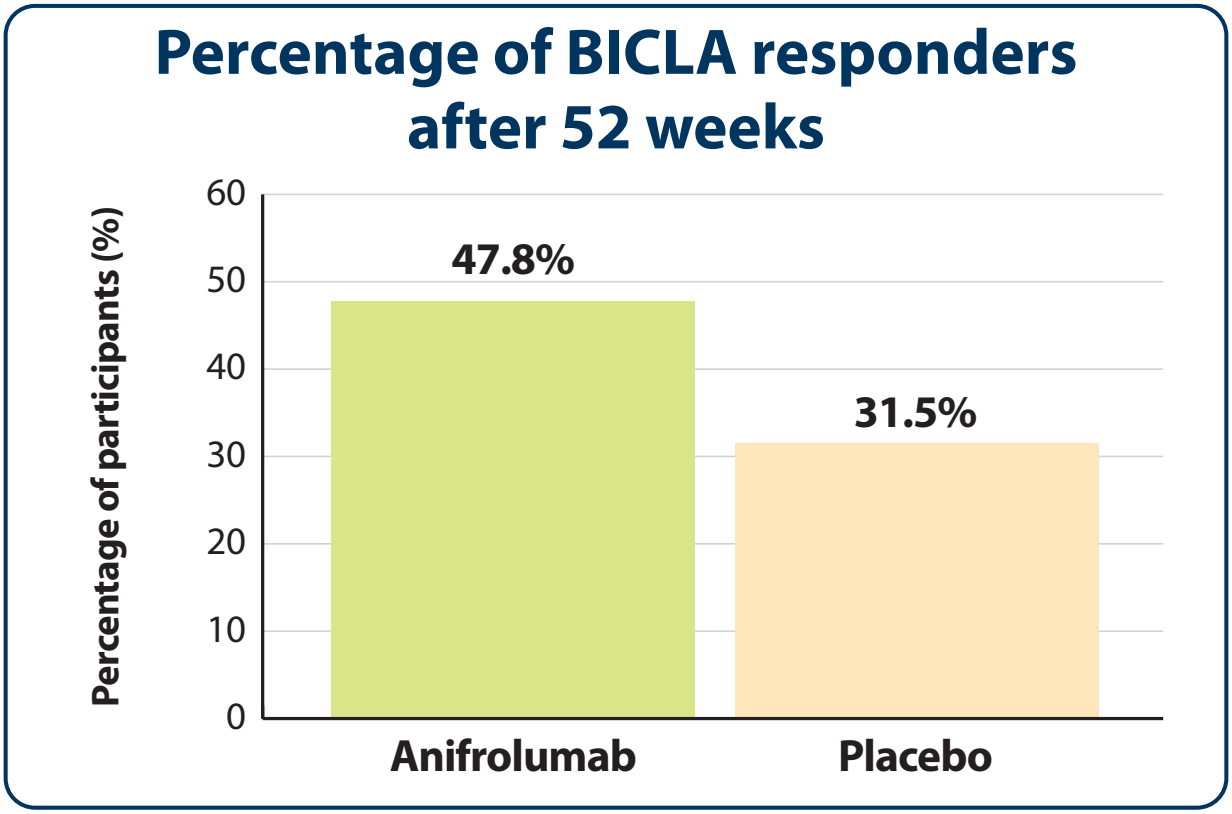
To answer this question, the participants completed questionnaires about all of their lupus symptoms. They did this before they got study treatment, and throughout the study. The researchers assessed several measures of disease activity based on each participant's lupus symptoms. Of these disease measures, 3 make up the British Isles Lupus Assessment Group-based Composite Lupus Assessment, also called BICLA. The BICLA assessment also depends on if the participants continued to take their study treatment and did not need to take any medications that were not allowed in the study.

If the participants met all of the criteria of the BICLA assessment, they were considered "BICLA responders". This meant their lupus symptoms had improved.

The researchers found that at week 52 of the study:

- 47.8% of participants who got anifrolumab were BICLA responders. This was 86 out of 180 participants.
- 31.5% of the participants who got the placebo were BICLA responders. This was 57 out of 182 participants.

The chart below shows the results.



What medical problems did 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 the 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.

How many participants had serious adverse reactions?

There were 5.5% of participants who had serious adverse reactions during the study. This was 20 out of 362 participants.

- 3.3% of participants who got anifrolumab had serious adverse reactions during the study. This was 6 out of 180 participants.
- 7.7% of participants who got the placebo had serious adverse reactions during the study. This was 14 out of 182 participants.

There was 1 participant in the anifrolumab group who died due to a serious adverse reaction during the study. This was due to pneumonia.

The table below shows the serious adverse reactions that participants had during the study.

Serious adverse reactions during the study

Serious adverse reactions	Anifrolumab (Out of 180 participants)	Placebo (Out of 182 participants)
Pneumonia	1.7% (3)	3.8% (7)
Allergic reaction	0.6% (1)	0.0% (0)
Cancerous growth on the cervix	0.6% (1)	0.0% (0)
Kidney stones	0.6% (1)	0.0% (0)
Shingles	0.6% (1)	0.0% (0)
Blood infection	0.0% (0)	0.5% (1)
Flu-like illness	0.0% (0)	0.5% (1)
Heart failure	0.0% (0)	0.5% (1)
Infection of the gut	0.0% (0)	0.5% (1)
Infection of the upper airways of the nose and throat	0.0% (0)	0.5% (1)
Inflammation of the gallbladder	0.0% (0)	0.5% (1)
Saliva gland infection	0.0% (0)	0.5% (1)
Tooth infection	0.0% (0)	0.5% (1)

How many participants had adverse reactions?

There were 36.5% of participants who had adverse reactions during the study. This was 132 out of 362 participants.

- 43.9% of participants who got anifrolumab had adverse reactions during the study. This was 79 out of 180 participants.
- 29.1% of participants who got the placebo had adverse reactions during the study. This was 53 out of 182 participants.

There were 2.2% of participants who stopped getting treatment due to adverse reactions they had during the study. This was 8 out of 362 participants.

- 0.6% of participants stopped getting anifrolumab because of adverse reactions they had during the study. This was 1 out of 180 participants.
- 3.8% of participants stopped getting the placebo because of adverse reactions they had during the study. This was 7 out of 182 participants.

What adverse reactions did the participants have?

The most common adverse reaction was infection of the upper airways of the nose and throat.

The table on the next page shows the most common adverse reactions that happened in 4 or more participants while they were getting study treatment. There were other adverse reactions, but these happened in fewer participants.

Most common adverse reactions during the study		
Adverse reactions	**Anifrolumab (Out of 180 participants)**	**Placebo (Out of 182 participants)**
Infection of the upper airways of the nose and throat	8.3% (15)	2.7% (5)
Nose and throat infection	6.7% (12)	2.2% (4)
Shingles	6.1% (11)	0.0% (0)
Infection of the main airways of the lungs	3.9% (7)	1.1% (2)
Urinary tract infection	3.3% (6)	3.8% (7)
Pneumonia	2.8% (5)	3.8% (7)
Sinus infection	1.1% (2)	2.2% (4)
Cold sore	1.1% (2)	1.6% (3)
Infection of the gut	0.6% (1)	1.6% (3)

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 the website, type **"NCT02446899"** into the search box, and click **"Search"**.
- www.clinicaltrialsregister.eu Once you are on the website, click **"Home and Search"**, then type **"2014-004632-19"** in the search box, and click **"Search"**.
- www.AstraZenecaClinicalTrials.com. Once you are on the website, type **"D3461C00004"** 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 Anifrolumab in Adult Subjects with Active Systemic Lupus Erythematosus

National Clinical Trials number: NCT02446899

AstraZeneca Protocol Number: D3461C00004

AstraZeneca AB, sponsored this study and has its headquarters in Södertälje, Sweden.

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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