NOVARTIS

Clinical Trial Results Summary

A clinical trial to find out if fevipiprant can reduce the need for oral steroids in controlling severe asthma

Protocol number: CQAW039A2323

Thank You!

Novartis sponsored this trial and believes it is important to share the results of the trial with you and the public. Thank you for taking part in this trial for the drug QAW039, also known as fevipiprant. You helped researchers learn more about how fevipiprant works in people with severe asthma.

As a clinical trial participant, you belong to a large community of people around the world. Your priceless contribution to medicine and healthcare is greatly appreciated.

This summary only shows the results of a single clinical trial. Other clinical trials may have different findings. Researchers and health authorities look at the results of many clinical trials to understand which drugs work and if they are safe. It takes lots of people around the world to make sure that our research is moving us forward. If you have any questions about these trial results, please talk to the doctor or staff at your trial site.

How long was this trial?

This trial was designed so that each participant could take part for 1 year and 3 months. However, the sponsor decided to stop enrolling participants in this trial earlier than planned. The reason for stopping the trial was that other trials showed fevipiprant may not work well in treating asthma.

The trial started in December 2018 and ended in February 2020.

Why was the research needed?

Researchers were looking for a better way to treat severe asthma symptoms. In this study, researchers wanted to find out if giving fevipiprant to participants in addition to standard treatment for severe asthma would reduce the use of oral steroids (prednisone). Asthma is a condition in which there is narrowing of the airways that carry oxygen into the lungs, making it hard to breathe.

Asthma causes some of the following symptoms at varying degree or times:

- inflammation in the lungs,
- tightness in the chest,
- a whistling sound while breathing,
- coughing.

There is no known cure for asthma and the current treatments available help to manage the symptoms.

Severe asthma requires treatment with a high or medium dose of an inhaled corticosteroid (ICS) plus an additional asthma medicine to prevent it from becoming "uncontrolled". Severe asthma can remain "uncontrolled" in some people even when they regularly take these medications. Oral steroids, also known as systemic corticosteroids or steroid tablets, may also be recommended for severe asthma patients.

Usually in people with asthma, white blood cells move to the lungs and cause inflammation, which can make it difficult to breathe. White blood cells are cells that help fight infection. Fevipiprant is an investigational drug that works by stopping these blood cells from moving into the lungs. This decreases inflammation in the lungs and improves asthma symptoms.

Trial drugs

The drugs given in this trial were:

- **Fevipiprant**, an investigational drug being studied for the treatment of severe asthma.
- **Placebo**, which looked like the trial drug but contains no medicine. Using a placebo helps researchers better understand the effect of a trial drug by making sure that the changes were not happening by chance.

All participants in the trial were already taking medicines to control their asthma.

Participants were provided with salbutamol or arbuterol inhalers, to be used if needed, when their asthma symptoms got worse. This medicine is known as “rescue” medicine.

Participants were also provided with oral steroids which they could take as an additional rescue medicine to treat asthma attacks and/or symptoms. Participants recorded their use of these oral steroids in an electronic diary.

Trial purpose

In this trial, researchers compared the results of all participants up to 36 weeks (about 8 months) of treatment with either fevipiprant or placebo when given along with standard treatment for severe asthma.

The main question the researchers wanted to answer was:

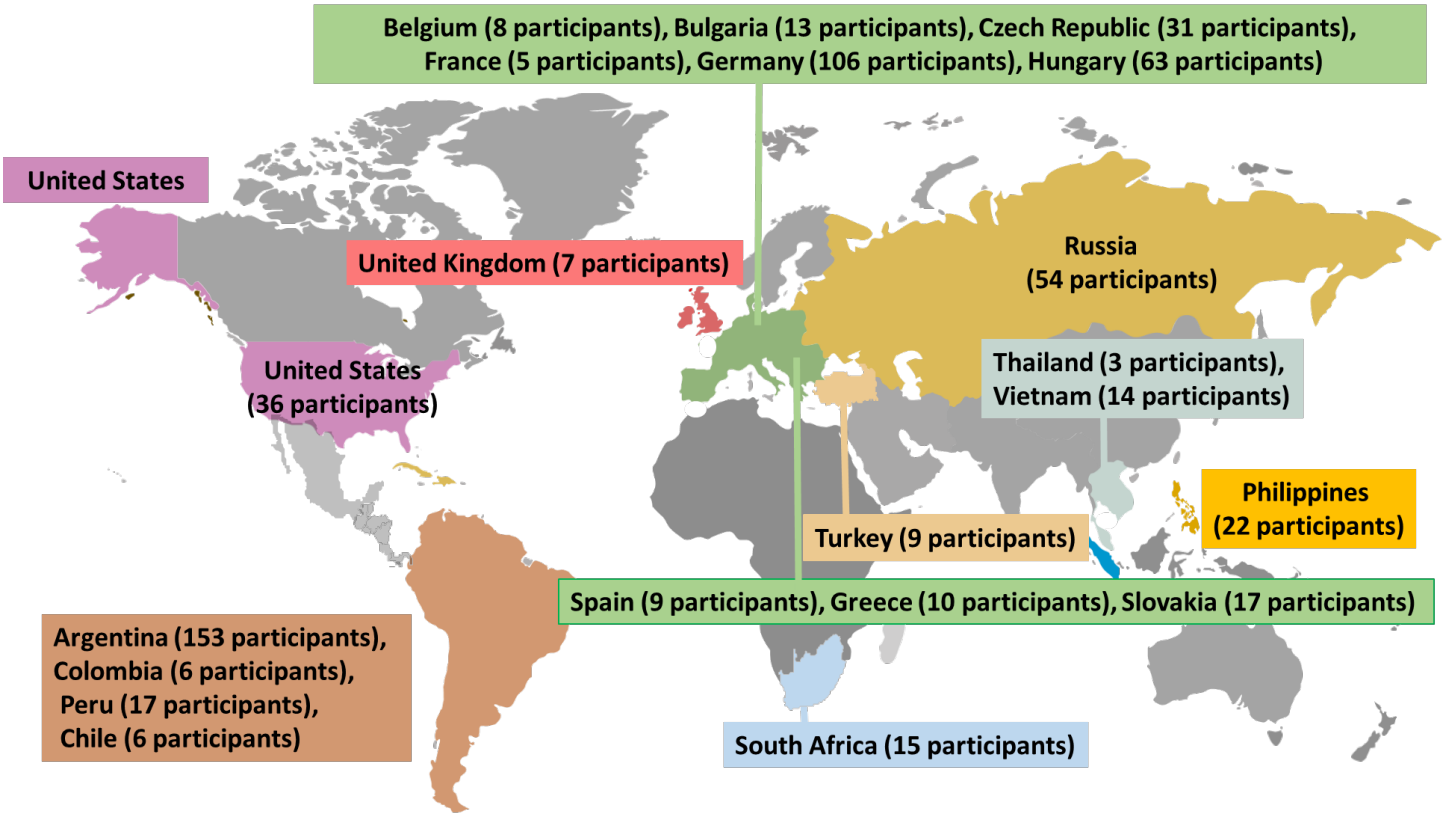
> Did fevipiprant reduce the amount of oral steroids participants took to control their asthma symptoms compared to placebo?

Who was in this trial?

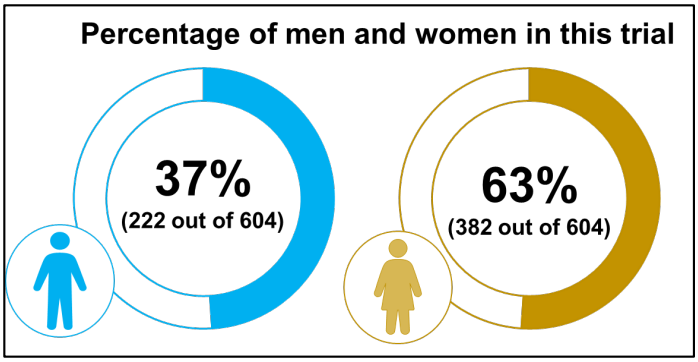
The participants could take part in this trial if they:

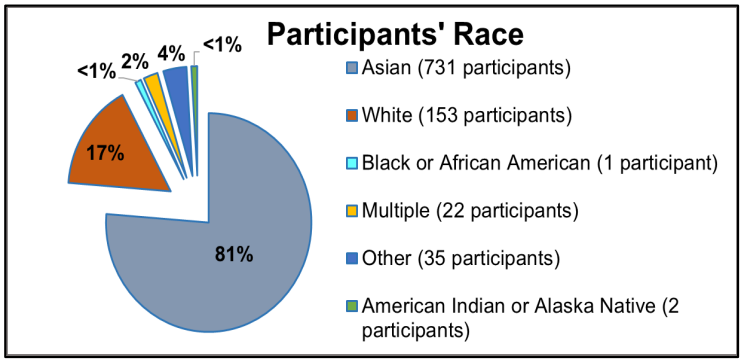
- were 18 years of age or above,
- were diagnosed with severe asthma for at least 3 months,
- were taking medium or high doses of standard treatment for severe asthma for at least 6 weeks,
- had at least 1 severe episode of worsening of asthma within 1 year of starting the trial, and
- did not have any heart problems or other serious medical conditions.

A total of 604 participants' from 21 countries participated in this trial.



The average age of participants was 53 years. Participants' age ranged from 19 to 84 years. The majority of participants were women, 382 out of 604 (63%).





What kind of trial was this?

This was a double-blind trial. This means that none of the participants, trial doctors, or trial staff knew what treatment participants were receiving. Some trials are done this way because knowing what treatment each patient is getting can affect the results of the trial. Doing a trial this way helps to make sure that the results are looked at with fairness towards all treatments.

What happened during this trial?

Screening

1326 participants went through a screening period during which the researchers performed certain tests to confirm that they could take part in the trial. However, only 604 participants were included in the study.

Run-in

During the run-in period, participants were given a new standard treatment for their severe asthma to take alongside the trial drugs (fevipiprant or placebo). This was to avoid a mix-up of effects between participants' regular standard treatment for their severe asthma and the trial drugs. At the end of the run-in period, the researchers confirmed if participants could continue to take part in the trial.

Treatment

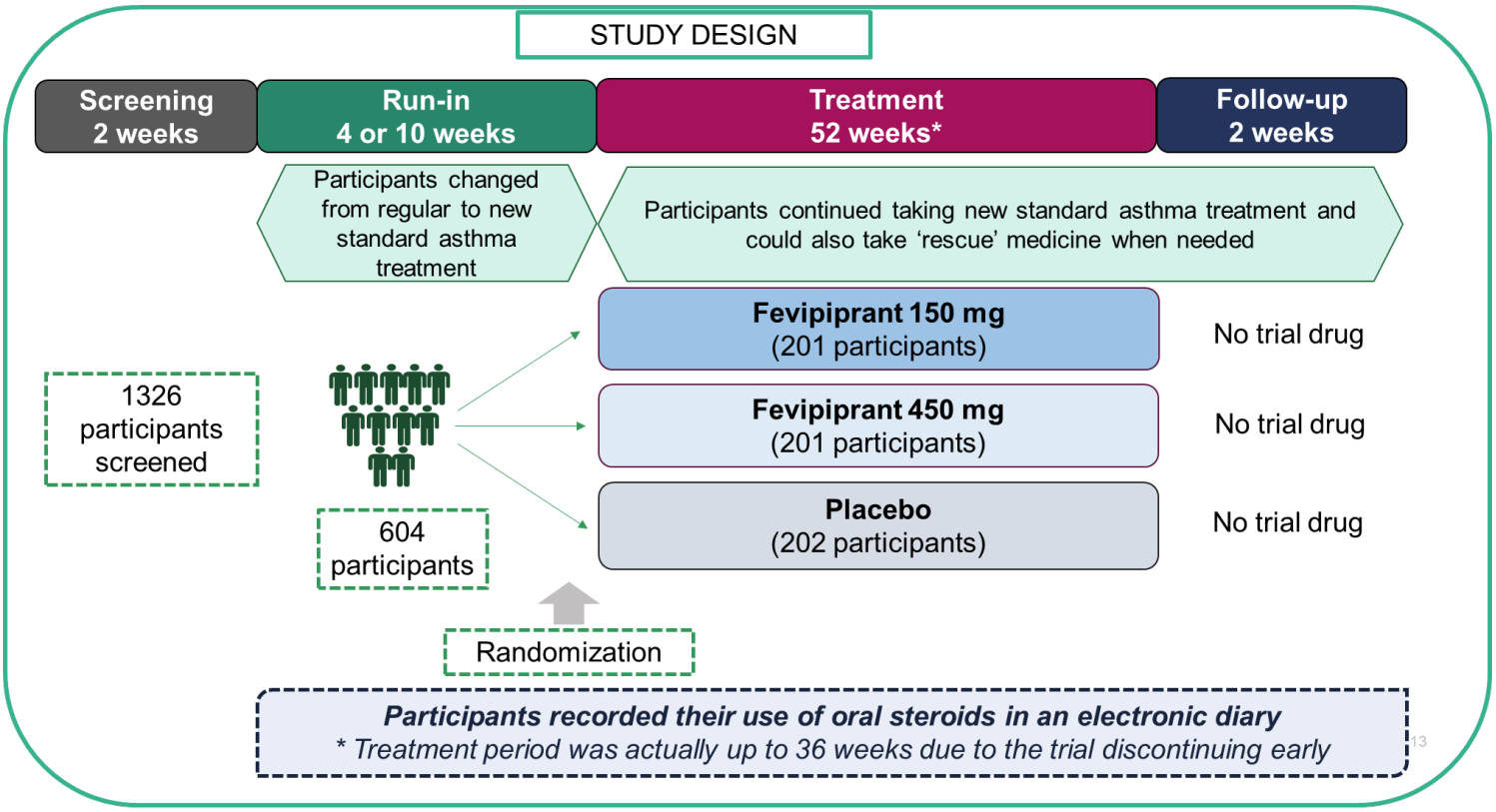
During the treatment period, researchers placed the participants randomly into 1 of the 3 groups:

- **Fevipiprant** as a tablet once a day, at a dose of 150 milligrams (mg)
- **Fevipiprant** as a tablet once a day, at a dose of 450 mg
- **Placebo** as a tablet once a day

The treatment period was initially planned to last 52 weeks (about 1 year), but was reduced up to 36 weeks (about 8 months). The study was discontinued earlier than planned because fevipiprant failed to show benefit in other clinical trials.

Follow-up

After the treatment period, participants entered into a 2-week follow-up period. During the follow-up period, no trial drug was given to the participants.



What were the key results of this trial?

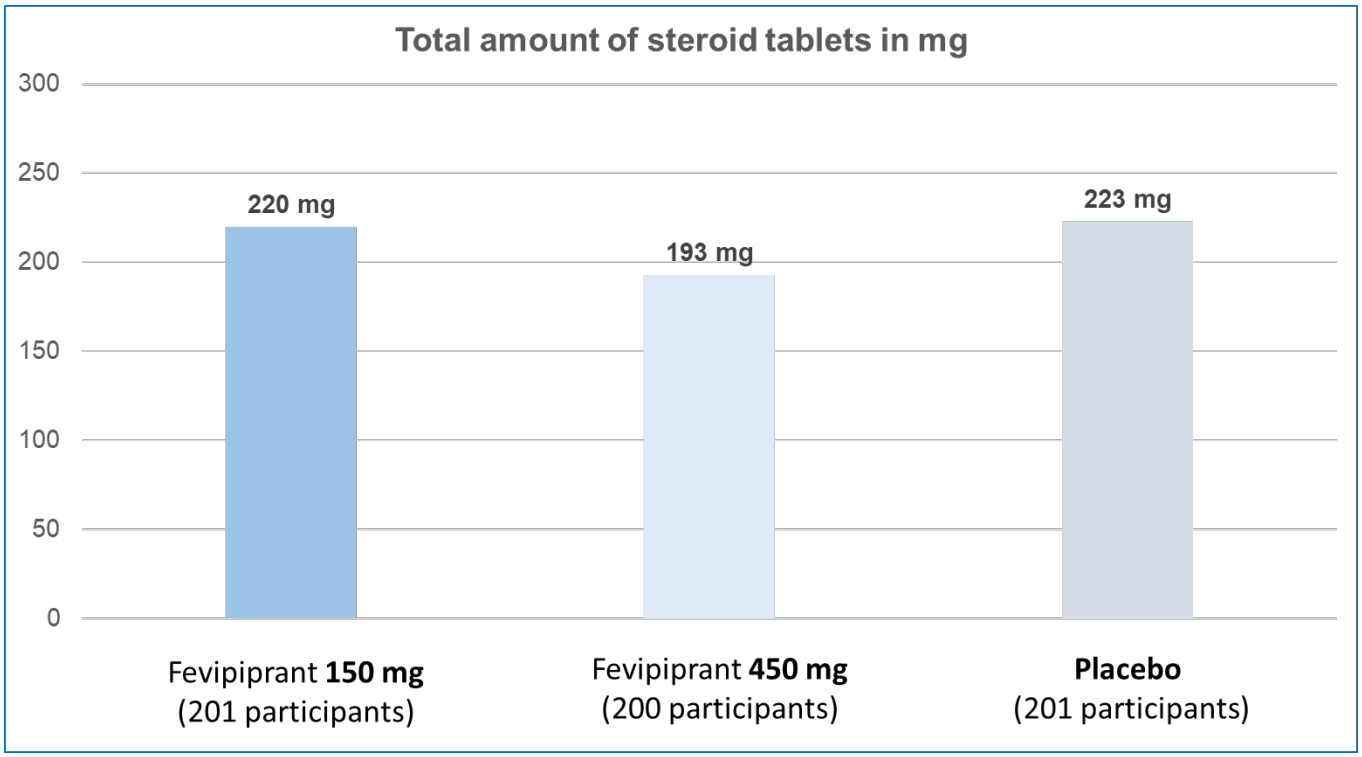
The study was stopped early because of negative results in other important studies of the drug. This early stop means that the study did not continue for enough time to show the expected results.

This is a summary of the average results for all participants in different treatment groups. It does not show the results of each individual participant. Results of individual participants could be different from the results of the total group of participants. A detailed presentation of the results can be found on the websites listed at the end of this summary.

Did fevipiprant reduce the amount of oral steroids participants took to control their asthma symptoms compared to placebo?

To answer this question, participants recorded the amount of oral steroids they took each day during the treatment period in an electronic diary.

There was little difference in the amount of oral steroids that participants took during the treatment period in the fevipiprant treatment groups compared to the placebo group. **However, because the trial was discontinued early, no conclusions can be made.**



Two participants were randomly assigned a treatment group but did not take any treatment. Therefore, data from only 602 participants was used to record the total amount of oral steroids that were taken during the trial: 200 participants in the Fevipiprant 450 mg group, 201 participants in the Fevipiprant 150 mg group and 201 participants in the placebo group.

What medical problems did the participants have during the trial?

Medical problems that happen in clinical trials are called “adverse events”.

A lot of research is needed to know whether a drug causes an adverse event. During a trial, all adverse events are recorded, whether or not they are thought to be caused by the trial drug. When new drugs are being studied, researchers keep track of all adverse events participants have.

This section is a summary of the adverse events that happened during this trial. The websites listed at the end of this summary may have more information about all the adverse events that happened in this trial.

An adverse event is an unwanted sign, symptom, or disease that participants have during a trial

An adverse event is considered “serious” when it is life-threatening, causes lasting problems, or the participant needs hospital care. These problems may or may not be caused by the trial drug

How many participants had adverse events?

During the trial, 265 out of 602 participants (44%) had adverse events. 5 out of 602 participants (1%) stopped the drug early because of adverse events. Serious adverse events happened in 16 out of 602 participants (3%) in the trial. There was one death during this study due to heart failure (circulatory failure).

Number of Participants (%) With Adverse Events

	Fevipiprant 150 mg (Out of 201 participants)	Fevipiprant 450 mg (Out of 200 participants)	Placebo (Out of 201 participants)
Adverse events	97 (48%)	86 (43%)	82 (41%)
Serious adverse events	7 (4%)	5 (3%)	4 (2%)
Stopped drug due to adverse events	3 (2%)	2 (1%)	0
Death	1 (1%)	0	0

What were the most common non-serious adverse events?

The most common non-serious adverse events that happened in at least 5 out of 100 (5%) of participants in any group are presented below.

Number of Participants (%) With Most Common Non-Serious Adverse Events

	Fevipiprant 150 mg (Out of 201 participants)	Fevipiprant 450 mg (Out of 200 participants)	Placebo (Out of 201 participants)
Worsening of asthma **(Asthma)**	42 (21%)	41 (21%)	40 (20%)
Nose and throat infection (**Nasopharyngitis**)	13 (7%)	10 (5%)	13 (7%)

What was the most common serious adverse event?

The most common serious adverse event, which was reported by more than 1 participant in any group, was asthma.

For a full list of the serious adverse events that occurred in this trial, please visit the websites listed at the end of this summary.

Number of Participants (%) With Serious Adverse Events

	Fevipiprant 150 mg (Out of 201 participants)	Fevipiprant 450 mg (Out of 200 participants)	Placebo (Out of 201 participants)
Worsening of asthma (**Asthma**)	3 (2%)	0	3 (2%)

How many participants stopped trial drug due to adverse events?

During the trial, 3 out of 201 (2%) participants in the fevipiprant 150 mg group stopped taking fevipiprant early due to adverse events such as

- bacterial infection in the upper respiratory tract (upper respiratory tract infection bacterial),
- broken foot (foot fracture),
- elevated liver enzymes (hepatic enzyme increased), and
- worsening of asthma (asthma).

2 out of 200 (1%) participants in the fevipiprant 450 mg group stopped taking fevipiprant early due to adverse events such as

- dizziness (vertigo),
- weakness (asthenia),
- elevated liver enzymes (hepatic enzyme increased), and
- temporary reddening of the face (flushing).

No participants in the placebo group stopped taking placebo early due to an adverse event.

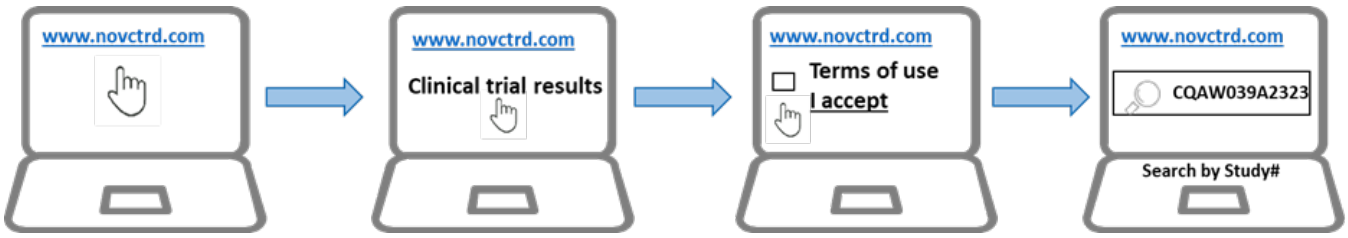
How was this trial useful?

This trial helped researchers learn about the safety but effects could not be confirmed due to early termination. The researchers ended this trial early because fevipiprant failed to show benefit to treatment in adults in other clinical trials.

Please remember, this summary only shows the results of a single clinical trial. Other clinical trials may have different results. Researchers and health authorities look at the results of many clinical trials to understand which drugs work, and if they are safe. It takes many people in multiple clinical trials around the world to advance medical science and healthcare. If you have any questions about these trial results, please talk to the doctor or staff at your trial site.

Where can I learn more about this trial?

More information about the results and adverse events in this trial can be found in the scientific summary of the results available on the Novartis Clinical Trial Results website (www.novctrd.com).



You can find more information about this trial on the following websites:

- www.clinicaltrials.gov Use the NCT identifier NCT03629249 in the search field.
- www.clinicaltrialsregister.eu Use EudraCT identifier 2018-000212-25 in the search field.

Full clinical trial title: A 52-week, multicenter, randomized, double-blind, double-dummy, parallel-group, placebo-controlled study of fevipiprant once daily plus standard-of-care (SoC) for reduction of systemic corticosteroids (oral and parenteral) use in patients with severe asthma

Thank you

Thank you for taking part in this trial. As a clinical trial participant, you belong to a large community of people around the world. You helped researchers answer important health questions and test new medical treatments.

NOVARTIS

Novartis is a global healthcare company based in Switzerland that provides solutions to address the evolving needs of patients worldwide.

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www.novartisclinicaltrials.com