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Clinical Trial Results Summary

A clinical trial to learn about how ofatumumab is processed in the body after injection via a pre-filled syringe or an autoinjector for the treatment of people with relapsing multiple sclerosis

Protocol number: COMB157G2102

Thank You!

Novartis sponsored this trial and believes it is important to share what was learned from the results of this trial with the participants and the public. Thank you for taking part in this trial for the drug ofatumumab. You helped researchers learn more about how ofatumumab works in people with relapsing multiple sclerosis.

As a clinical trial participant, you belong to a large community of people around the world. Your invaluable 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, such as the Food and Drug Administration (FDA) in the United States and the European Medicines Agency (EMA) in Europe, 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.

How long was this trial?

This trial started in September 2018 and ended in May 2020. The trial was designed so that a participant would receive study treatment for 12 weeks. Participants could then enter the post-treatment follow-up period of this trial or transition to another trial to receive continued study treatment.

The researchers completed this trial as planned. When the trial ended, the researchers collected informationon the trial treatments (ofatumumab injected by an autoinjector compared to ofatumumab injected by a pre-filled syringe) and created a report of the trial results. This summary is based on that report.

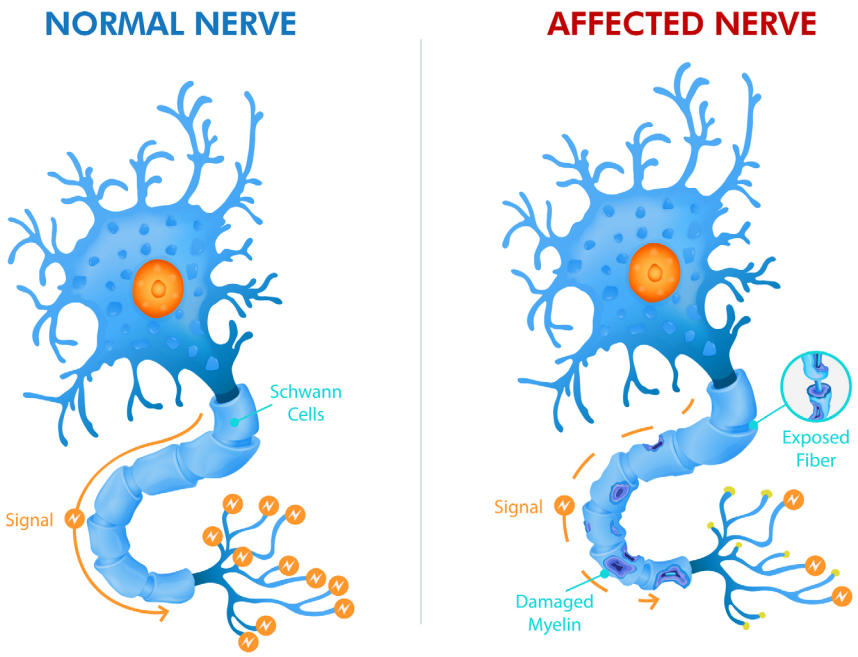
Why was the research needed?

Multiple sclerosis (MS) is a condition that affects the brain and spinal cord. In patients with MS, the coating that protects the nerves, known as myelin, is damaged. This leads to nerve damage and the formation of scar tissue, which causes a range of symptoms. Researchers were looking for a better way to treat a type of MS called relapsing MS. Patients with relapsing MS will have repeated attacks of neurological symptoms, called relapses.

The main purpose of this trial was to see if ofatumumab injected via a pre-filled syringe was processed in the body in the same way as when injected via an autoinjector. Both of these devices deliver ofatumumab under the skin (subcutaneously), but the autoinjector is easier to self-administer at home without the help of a doctor.

In people with MS, certain types of white blood cells can cause damage to the nervous system and lead to MS symptoms. Ofatumumab works to reduce the number of these white blood cells in the nervous system.

MULTIPLE SCLEROSIS



Trial drug

The drug given in this trial was **ofatumumab**, an investigational drug being studied for the treatment of relapsing MS. Ofatumumab injection was given under the skin (subcutaneously) to the abdomen or thigh with either an autoinjector device or a pre-filled syringe device.

Trial purpose

In this trial, researchers compared the average results of all participants after 12 weeks of treatment with either ofatumumab injected by pre-filled syringe or ofatumumab injected by autoinjector.

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

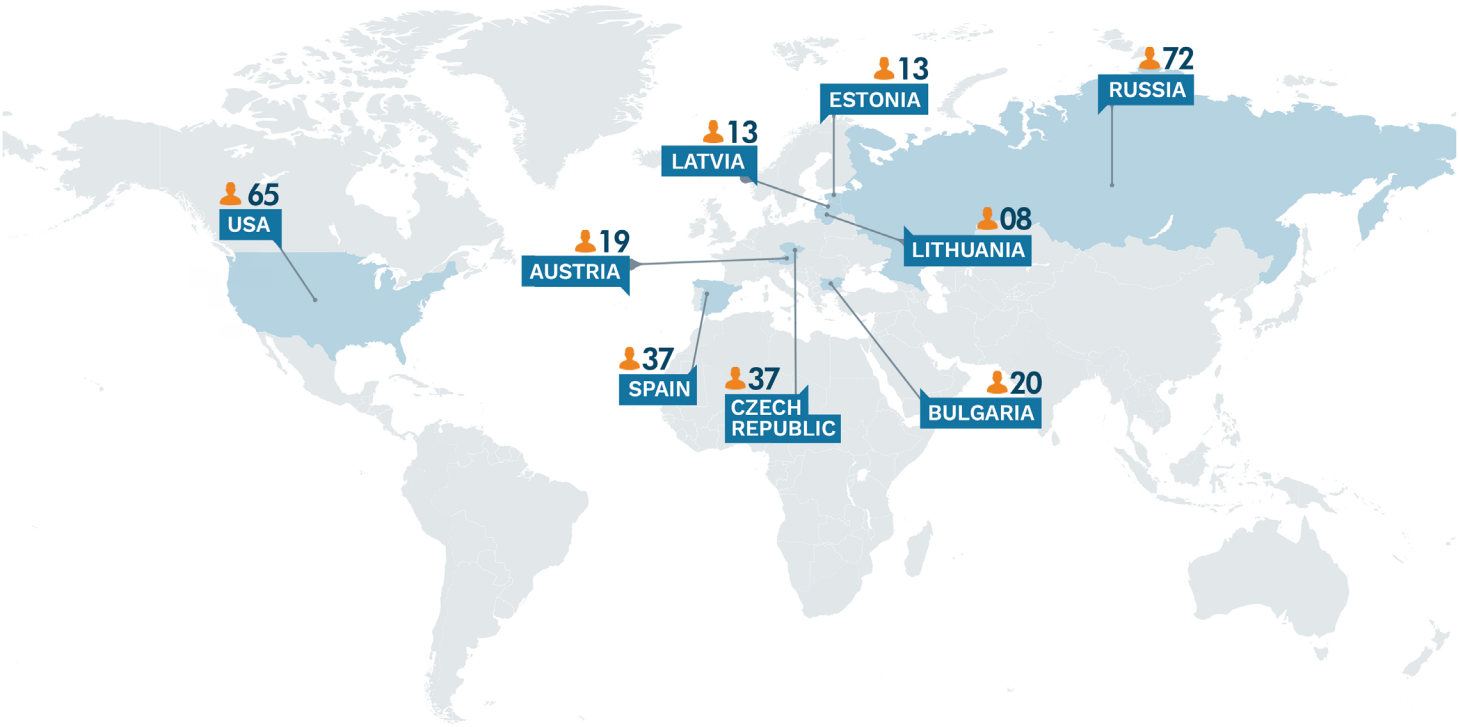
- Was the maximum amount of ofatumumab achieved in the body similar when injected by either pre-filled syringe or autoinjector to the abdomen, as measured after 12 weeks of treatment?
- Was the total amount of ofatumumab found in the body up to the last dose similar when injected by pre-filled syringe or autoinjector to the abdomen, as measured after 12 weeks of treatment?

Who was in this trial?

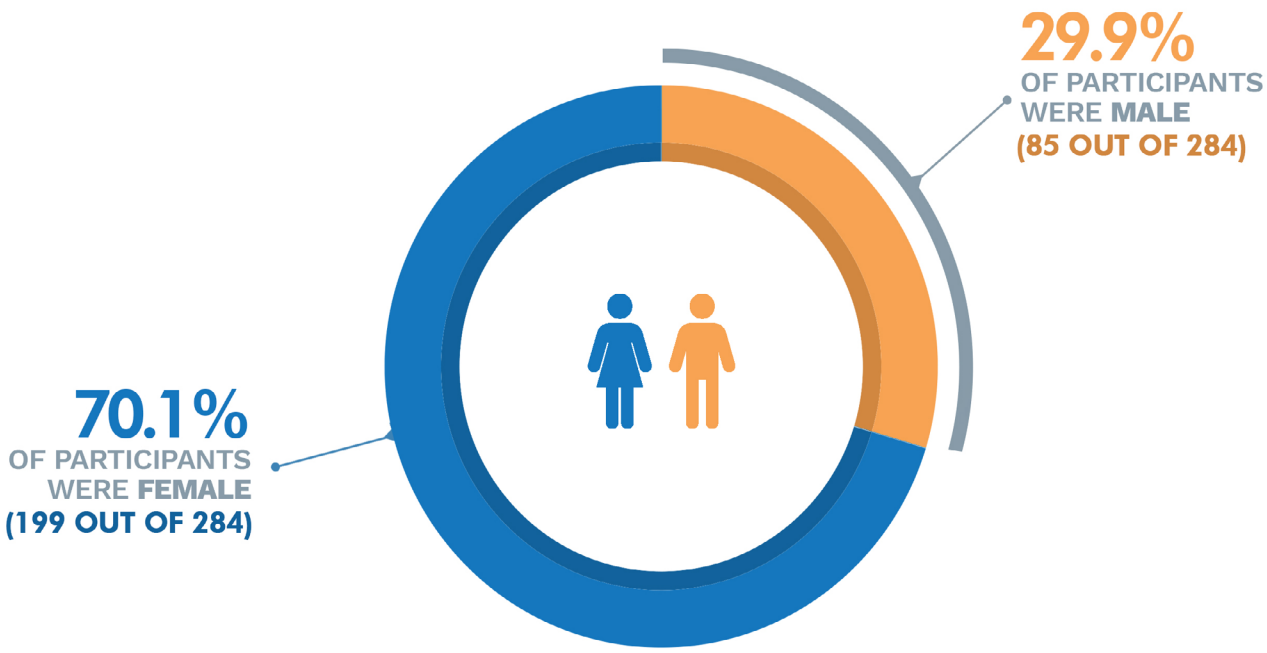
Participants could take part in this trial if they:

- were 18 to 55 years of age and had relapsing MS;
- had at least one relapse in the previous year or two relapses in the past 2 years prior to taking part in the study, or an MRI scan indicating active MS during the year leading up to the study;
- did not have any other long-lasting diseases of the immune system other than MS.

A total of 284 participants from 9 countries participated in this trial.



The average age of participants in this trial was 37.3 years. A total of 70.1% of the trial participants, or 199 out of 284, were female. A total of 96.8% of participants (275 out of 284) were White, 2.1% of participants (6 out of 284) were Black or African American, 0.7% of participants (2 out of 284) were of other ethnicities, and 0.4% of participants (1 out of 284) were American Indian or Alaska Native. Participants' age ranged from 18 to 55 years.



What kind of trial was this?

This was an open-label trial. This means that the participants, trial doctors, and trial staff knew what treatment participants were receiving.

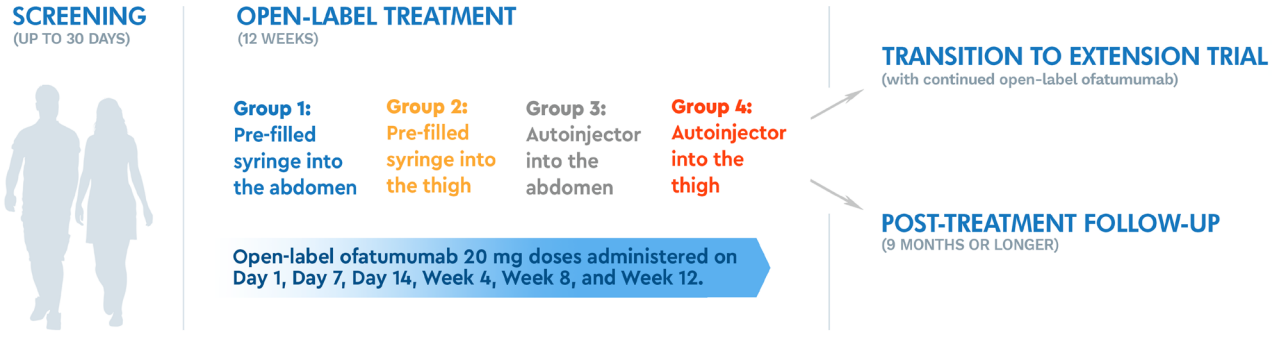
What happened during this trial?

Participants went through a screening period to confirm that they could take part in the trial. Participants who qualified then entered the 12-week open-label treatment period wherein participants were randomly (by chance) put into 4 groups. This process is called randomization. The participants were to receive either:

- **Group 1:** ofatumumab injection administered via pre-filled syringe to the abdomen, at a dose of 20 milligrams (mg).
- **Group 2:** ofatumumab injection administered via pre-filled syringe to the thigh, at a dose of 20 mg.
- **Group 3:** ofatumumab injection administered via autoinjector to the abdomen, at a dose of 20 mg.
- **Group 4:** ofatumumab injection administered via autoinjector to the thigh, at a dose of 20 mg.

Participants were given ofatumumab on Day 1, Day 7, Day 14, Week 4, Week 8, and Week 12 of the open-label treatment period. At all scheduled visits, blood samples were taken to monitor the amount of ofatumumab in the body.

After the open-label treatment period, participants either transitioned to an extension trial with continued open-label ofatumumab treatment or entered the post-treatment follow-up period of this study. In the post-treatment follow-up period, all participants were followed for up to 9 months or until their white blood cell levels returned to normal or the level they entered the study with, whichever occurred first after stopping treatment with ofatumumab.



What were the key results of this trial?

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.

Was the maximum amount of ofatumumab achieved in the body similar when injected by either pre-filled syringe or autoinjector to the abdomen, as measured after 12 weeks of treatment?

Researchers found that participants who received ofatumumab via pre-filled syringe to the abdomen achieved a similar maximum amount of ofatumumab in the body compared to participants who received ofatumumab via autoinjector to the abdomen after 12 weeks of treatment.

Was the total amount of ofatumumab found in the body up to the last dose similar when injected by pre-filled syringe or autoinjector to the abdomen, as measured after 12 weeks of treatment?

Researchers found that participants who received ofatumumab via pre-filled syringe to the abdomen had a similar total amount of ofatumumab in the body up to the last dose compared to participants who received ofatumumab via autoinjector to the abdomen after 12 weeks of treatment.

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 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?

In this trial, 79 out of 128 participants (61.7%) who received ofatumumab autoinjector into the abdomen and 70 out of 130 participants (53.8%) who received ofatumumab pre-filled syringe into the abdomen reported at least 1 adverse event. In addition, 7 out of 13 participants (53.8%) who received ofatumumab autoinjector into the thigh and 7 out of 13 participants (53.8%) who received ofatumumab pre-filled syringe into the thigh reported at least 1 adverse event. None of the participants died during the study.

Number of Participants (%) with Adverse Events

	Autoinjector into the abdomen (Out of 128 participants)	Pre-filled syringe into the abdomen (Out of 130 participants)	Autoinjector into the thigh (Out of 13 participants)	Pre-filled syringe into the thigh (Out of 13 participants)
At least 1 adverse event	79 (61.7%)	70 (53.8%)	7 (53.8%)	7 (53.8%)
At least 1 serious adverse event	2 (1.6%)	4 (3.1%)	0 (0%)	0 (0%)
Stopped drug due to adverse event	0 (0%)	1 (0.8%)	0 (0%)	0 (0%)

What was the most common non-serious adverse event?

Injection related reaction (a bodily reaction to a medication injection) was the most common non-serious adverse event that happened in at least 10 out of 100 (10%) of the participants in any of the four treatment groups in this study.

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

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

	Autoinjector into the abdomen (Out of 128 participants)	Pre-filled syringe into the abdomen (Out of 130 participants)	Autoinjector into the thigh (Out of 13 participants)	Pre-filled syringe into the thigh (Out of 13 participants)
Injection related reaction	41 (32.0%)	29 (22.3%)	5 (38.5%)	6 (46.2%)
Injection site reaction (a reaction to a medication injection around the injection site)	11 (8.6%)	17 (13.1%)	0 (0%)	1 (7.7%)
Headache	13 (10.2%)	7 (5.4%)	0 (0%)	1 (7.7%)

What was the most common serious adverse event?

No serious adverse events occurred in more than 1 participant.

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

	Autoinjector into the abdomen (Out of 128 participants)	Pre-filled syringe into the abdomen (Out of 130 participants)	Autoinjector into the thigh (Out of 13 participants)	Pre-filled syringe into the thigh (Out of 13 participants)
Vertigo	0 (0%)	1 (Less than 1%)	0 (0%)	0 (0%)
Gastrointestinal motility disorder (abnormal digestive movement in the gut)	1 (Less than 1%)	0 (0%)	0 (0%)	0 (0%)
Stopped drug due to adverse event	0 (0%)	1 (Less than 1%)	0 (0%)	0 (0%)

Pneumonia	0 (0%)	1 (Less than 1%)	0 (0%)	0 (0%)
Second degree burns	1 (Less than 1%)	0 (0%)	0 (0%)	0 (0%)
Menometrorrhagia (heavy, abnormal bleeding of the uterus)	0 (0%)	1 (Less than 1%)	0 (0%)	0 (0%)

How many participants stopped trial drug due to adverse events?

During the trial, 1 of the participants who received ofatumumab (into the abdomen) stopped ofatumumab early due to an adverse event, low antibody (immunoglobin M) count.

How was this trial useful?

This trial helped researchers learn about how the body processes ofatumumab when given via an autoinjector or pre-filled syringe. Researchers found that ofatumumab injected via a pre-filled syringe was processed similarly in the body as when injected via an autoinjector. Each treatment group reported similar adverse events. The proportion of participants with serious adverse events and participants who stopped ofatumumab early due to an adverse event was low.

This clinical trial was used to support approval for ofatumumab in the United States, European Union, and other countries worldwide. Please remember, this summary only shows the results of a single clinical trial. 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 NCT0356073 in the search field.
- https://www.clinicaltrialsregister.eu/ctr-search/search Use the EudraCT identifier 2017-004702-17 in the search field.

Full clinical trial title: A 12 Week Randomized Open Label Parallel Group Multicenter Study to Evaluate Bioequivalence of 20 mg Subcutaneous Ofatumumab Injected by Pre-filled Syringe or Autoinjector in Adult RMS Patients

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.

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

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