Clinical Study Results

MedImmune
A member of the AstraZeneca Group

Research Sponsor: MedImmune, a wholly owned subsidiary of AstraZeneca

Drugs Studied: MEDI0382

Study Title: A study to learn how MEDI0382 affects body weight, calorie intake, and calories burned in participants who have type 2 diabetes and are overweight or have obesity

Thank you!

Thank you to the participants who took part in the clinical study for the study drug MEDI0382. All of the participants helped researchers learn more about MEDI0382 to help people who have type 2 diabetes and are overweight or have obesity.

MedImmune 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 the participants understand and feel proud of their important role in medical research.

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

Overview of this study

Why was the research needed?

Researchers are looking for a better way to treat type 2 diabetes. Before a drug can be approved for people to take, researchers do clinical studies to find out how it works and how safe it is.

What treatments were the participants given?

There were 2 parts to this study, Part 1 and Part 2. In Part 1, all of the participants were given a placebo for about 2 weeks. A placebo looks like a drug but does not have any medicine in it. In Part 2, the participants were given either MEDI0382 or a placebo for about 6 weeks.

What were the results of the study?

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

- **Did MEDI0382 affect the participants' body weight?**

  Yes. The researchers found that the participants who were given MEDI0382 in Part 2 had a larger percent decrease in their body weight compared to the participants who were given the placebo.

- **Did MEDI0382 affect the participants' calorie intake?**

  Yes. Overall, the researchers found that the participants who were given MEDI0382 in Part 2 had a larger decrease in their calorie intake compared to the participants who were given the placebo.

- **Did MEDI0382 affect how many calories the participants burned off?**

  No. In Part 2 overall, the researchers found that there were differences in the number of calories burned between the MEDI0382 group and the placebo group. But, these differences were too small for the researchers to consider them to be meaningful.

- **What medical problems happened during the study?**

  There were 76.0% of participants who had medical problems during the study that the study doctors thought might be related to the study drug. The most common medical problem was nausea.

More details about the results of this study are included later in this summary.

Where can I learn more about this study?

You can find more information about this study on the websites listed on the last page. When a full report of the study results is available, it can also be found on those websites.

Who took part in the study?

The researchers asked for the help of men and women who have type 2 diabetes and were overweight or had obesity. These men and women were already taking a type 2 diabetes drug called metformin. The participants were 45 to 74 years old when they joined.

The study included 28 participants in the United Kingdom.

Why was the research needed?

Researchers are looking for a better way to treat type 2 diabetes in people who are overweight or have obesity. Before a drug can be approved for people to take, researchers do clinical studies to find out how it works and how safe it is.

In people who have type 2 diabetes, the body does not produce enough insulin or it does not respond to insulin as well as it should. Insulin is a hormone made by the pancreas that controls the levels of sugar in the blood. A common cause of type 2 diabetes is being overweight or having obesity.

Body weight may be lost by decreasing the number of calories a person takes in by following a diet, or by burning off calories through exercise. But, people who are overweight or have obesity may find it difficult to lose body weight.

There are several treatments available for people who have type 2 diabetes that may help them control their insulin and blood sugar. But, many of these treatments do not help them lose body weight.

The study drug, MEDI0382, is being developed to lower blood sugar levels and body weight. In this study, the researchers wanted to find out if MEDI0382 helped the participants to lose body weight. They also wanted to find out if MEDI0382 affected the participants' calorie intake, how many calories they burned off, and if they had any medical problems during the study.

What was the purpose of this study?

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

- Did MEDI0382 affect the participants' body weight?
- Did MEDI0382 affect the participants' calorie intake?
- Did MEDI0382 affect how many calories the participants burned off?
- What medical problems happened during the study?

The answers to these questions are important to know before other studies can be done that help find out if MEDI0382 improves the health of people who have type 2 diabetes and are overweight or have obesity.

What treatments were the participants given?

There were 2 parts to this study. In Part 1, all of the participants were given a placebo. A placebo looks like a drug but does not have any medicine in it. In Part 2, the participants were given either MEDI0382 or a placebo. Researchers use a placebo to help make sure any of the effects they see in the participants who are given the drug are actually caused by the drug.

Throughout the study, the participants also kept taking metformin.

Part 1 was "single-blind". This means the researchers, study doctors, and other study staff knew what the participants were being given but the participants did not.

Part 2 was "double-blind". This means none of the participants, researchers, study doctors, or other study staff knew what treatment each participant was being given.

Some of the participants either left the study before Part 2 started or did not have complete results for Part 1. So, only 25 participants started Part 2.

During Part 2, the participants who were given MEDI0382 started at a low dose. Then, the dose was slowly increased during the study.

Both MEDI0382 and the placebo were given through a needle under the skin, called an injection. The doses of MEDI0382 were measured in micrograms, also called µg.

A computer program was used to randomly choose the treatment for each participant during Part 2. 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.

The chart below shows the treatments the participants were given.

	Part 1	Part 2
	**28 participants**	**25 participants**
	• Placebo through an injection	• 18 participants were given 100 to 300 µg MEDI0382 through an injection • 7 participants were given the placebo through an injection
	• Once a day	• Once a day

What happened during the study?

The participants were in the study for up to about 4 months. But, the entire study took about 1 year to finish. The study started in September 2018 and ended in December 2019.

The participants visited their study site 1 time within 1 month of the start of the study. At this visit, the study doctors checked to make sure the participants could join the study. The study doctors:

- did a physical examination and checked the participants' body weight
- took blood and urine samples
- checked the participants' heart health using an electrocardiogram, also called an ECG
- asked the participants about their medical history, how they were feeling, and what medicines they were taking other than metformin

Throughout both parts of the study, the study doctors checked the participants' health and body weight and asked them how they were feeling. The study doctors also kept track of how many calories the participants took in and burned off.

During Part 1, the participants visited their study site up to 3 times over the course of about 2 weeks. During this part, all of the participants were given a placebo injection once a day.

After Part 1 ended, the participants started Part 2.

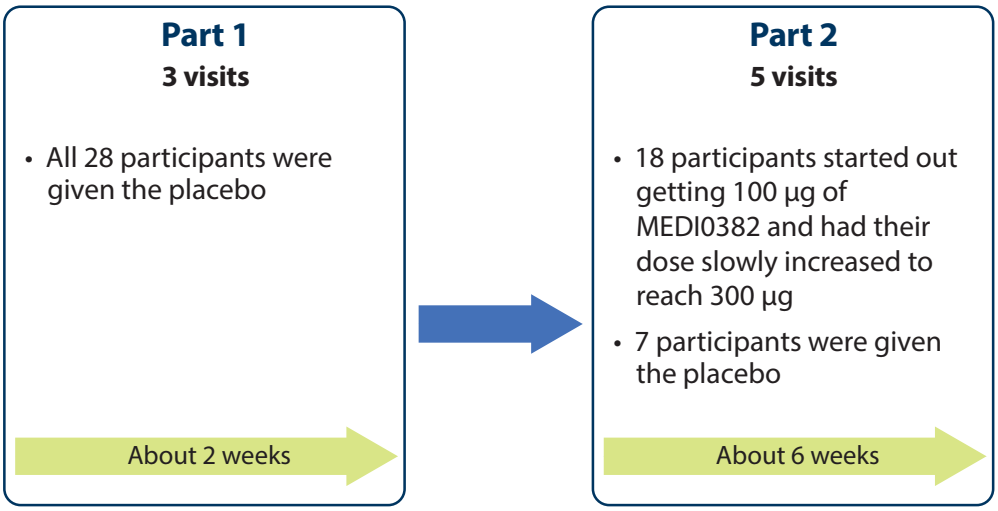
Some of the participants left the study during Part 1 before they received any of the study drug MEDI0382. So, only 25 participants started Part 2.

During Part 2, the participants visited their study site up to 5 times over the course of about 6 weeks. During this part, the participants were given an injection of either MEDI0382 or the placebo once a day.

During Part 2, the participants also exercised on a stationary bicycle, and then rested. The study doctors used a machine, called a calorimeter, to measure how many calories the participants burned off overall, during exercise, and during rest.

About 1 month after being given their last treatment, the participants visited their study site 1 more time. At this visit, the study doctors checked the participants' health and body weight and asked them how they were feeling.

The chart below shows what happened during treatment.



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 that the researchers wanted to answer can be found on the websites listed at the end of this summary. When 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.

Some of the participants left the study during Part 1 before they received any of the study drug MEDI0382. So, the results below are for only 21 participants.

Did MEDI0382 affect the participants' body weight?

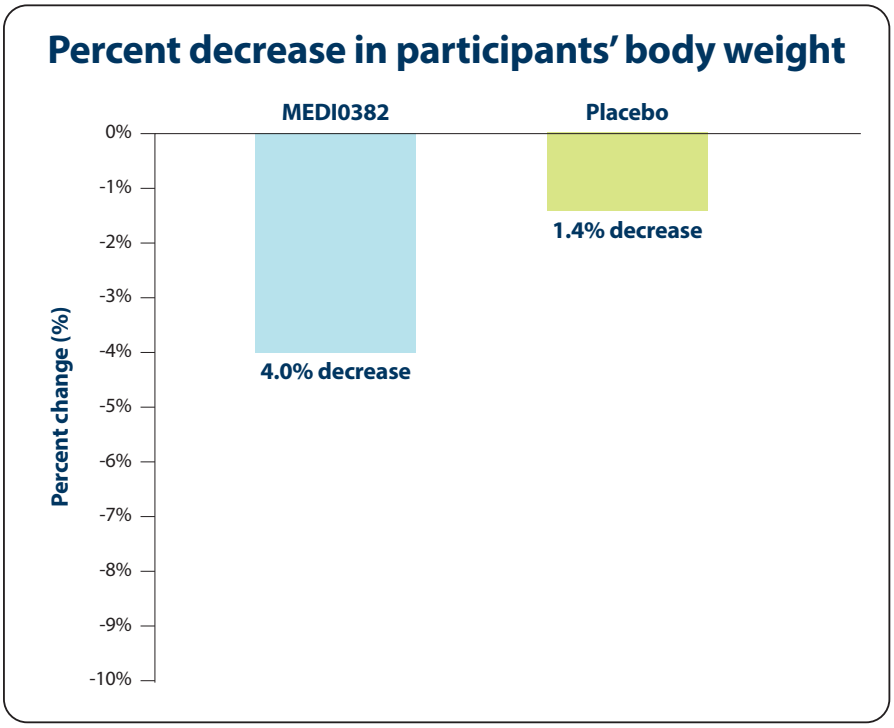
Yes. To answer this question, the study doctors checked the participants' body weight at the start of Part 2, and after they finished treatment in Part 2. Then, the researchers calculated the percent change in the participants' body weight.

Overall, the researchers found that the participants who were given MEDI0382 in Part 2 had a larger percent decrease in their body weight compared to the participants who were given the placebo.

At the end of Part 2, the researchers found that:

- The participants who were given MEDI0382 had a 4.0% decrease in their body weight. These results were for 14 participants.
- The participants who were given the placebo had a 1.4% decrease in their body weight. These results were for 7 participants.

The figure below shows these results.



Did MEDI0382 affect the participants' calorie intake?

Yes. To answer this question, the study doctors kept track of how many calories the participants took in during lunch throughout Part 2. The study doctors focused on these results at the start of Part 2, about 2 weeks into Part 2, and at the end of Part 2.

Overall, the researchers found that the participants who were given MEDI0382 in Part 2 had a larger decrease in their calorie intake compared to the participants who were given the placebo.

Did MEDI0382 affect how many calories the participants burned off?

No. To answer this question, the study doctors asked the participants throughout Part 2 to exercise on a stationary bicycle, and then rest. The study doctors used a machine called a calorimeter to measure the participants':

- total number of calories burned
- calories burned off during exercise
- calories burned off during rest

Overall, the researchers found that there were differences in these measurements between the MEDI0382 group and the placebo group during Part 2. But, these differences were too small for the researchers to consider them to be meaningful.

What medical problems happened 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 treatments. 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 treatments. A lot of research is needed to know whether a treatment causes an adverse reaction. These adverse reactions have been, and will continue to be, reviewed together with all of the available data for the treatments.

Some of the participants left the study during Part 1 before they received any of the study drug MEDI0382. So, the information below is for only 25 participants.

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.

Did any adverse reactions happen during this study?

There were 76.0% of participants who had adverse reactions during the study. This was 19 out of 25 participants.

None of the participants had serious adverse reactions during the study.

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

The table below shows how many participants had adverse reactions.

Adverse reactions during the study

	MEDI0382 (out of 18 participants)	Placebo (out of 7 participants)
How many participants had adverse reactions?	88.9% (16)	42.9% (3)
How many participants had serious adverse reactions?	0.0% (0)	0.0% (0)
How many participants stopped taking study treatment due to adverse reactions?	22.2% (4)	0.0% (0)

What adverse reactions happened during this study?

The most common adverse reaction during the study that the researchers thought was caused by the study drug MEDI0382 was nausea.

The table below shows the adverse reactions that happened in at least 2 participants during this study. There were other adverse reactions, but those happened in fewer participants.

Most common adverse reactions during the study

Adverse reaction	MEDI0382 (out of 18 participants)	Placebo (out of 7 participants)
Nausea	66.7% (12)	0.0% (0)
Diarrhoea	16.7% (3)	42.9% (3)
Decreased appetite	27.8% (5)	0.0% (0)
Vomiting	22.2% (4)	14.3% (1)
Changes in ECG results (a possible sign of heart damage)	22.2% (4)	0.0% (0)
Belching	16.7% (3)	0.0% (0)
Constipation	16.7% (3)	0.0% (0)
Having low energy	16.7% (3)	0.0% (0)
Dizziness	11.1% (2)	0.0% (0)
Skin redness at injection site	11.1% (2)	0.0% (0)
Pain in the stomach area	5.6% (1)	14.3% (1)

How has this study helped patients and researchers?

This study helped researchers learn how MEDI0382 affects body weight, calorie intake, and calories burned in people who have type 2 diabetes and are overweight or have obesity.

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 MEDI0382 are planned.

Where can I learn more about this study?

You can find more information about this study on the websites listed below. If more information about the study results is available, it can also be found here.

- www.clinicaltrials.gov. Once you are on the website, type **"NCT03596177"** into the search box, and click **"Search"**.
- http://www.clinicaltrialsregister.eu. Once you are on the website, click **"Home and Search"**, then type **"2018-001220-19"** in the search box, and click **"Search**".
- www.AstraZenecaClinicalTrials.com. Once you are on the website, type **"D5670C00021"** into the search box, and click **"Find a Study"**.

Full Trial Title: An Exploratory Phase 2a, Randomised, Double-blind, Placebo controlled Study to Evaluate the Effect of MEDI0382 on Energy Balance in Overweight and Obese Subjects with Type 2 Diabetes Mellitus

AstraZeneca Protocol Number: D5670C00021

MedImmune, a wholly owned subsidiary of AstraZeneca, sponsored this study and has its headquarters at 1 Medimmune Way, Gaithersburg, MD 20878.

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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