AstraZeneca

Clinical Study Results

Research Sponsor: AstraZeneca AB

Treatment Studied: Dapagliflozin

Study Purpose: A study to learn how dapagliflozin affects people with type 2 diabetes that have healthy kidneys, and people without type 2 diabetes that have low functioning kidneys

Protocol Number: D1690C00049

Thank you!

Thank you to the participants who took part in the clinical study for the study treatment dapagliflozin. All of the participants helped researchers learn more about how dapagliflozin affects people with type 2 diabetes and healthy kidneys, as well as people who do not have type 2 diabetes but have low functioning kidneys. "Low functioning kidneys" are kidneys that remove lower amounts of sodium in the urine compared to healthy kidneys.

AstraZeneca AB 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 people with low functioning kidneys. Before a treatment can be approved for people to take, researchers do clinical studies to find out how it works and how safe it is.

Low functioning kidneys are kidneys that remove lower amounts of sodium in the urine compared to healthy kidneys. This is a common condition in people with type 2 diabetes, also known as T2D.

The study treatment, dapagliflozin, is already used to treat people with T2D. In this study, the researchers wanted to find out more about how dapagliflozin affects the kidneys' ability to remove sodium in the urine.

What treatments did the participants take?

The participants in this study took dapagliflozin. The participants who had T2D also continued taking any treatments for T2D that they were on before the study started.

What were the results of the study?

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

> **Did dapagliflozin affect the amount of sodium removed in the urine?**

Overall, the researchers found that the participants who had T2D and healthy kidneys did not have a meaningful change in the amount of sodium in their urine. The researchers could not determine if dapagliflozin affected the amount of sodium removed in the urine for the participants who did not have T2D but had low functioning kidneys. This was because too few of these participants joined the study.

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

There were 16.7% of participants who had medical problems during the study that the study doctors thought might be related to the study treatment.

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 people who had T2D and healthy kidneys. They also asked for the help of people who did not have T2D but had low functioning kidneys. The participants were 46 to 76 years old when they joined.

The researchers also planned to include participants who had both T2D and low functioning kidneys. But, the researchers were not able to find enough of these participants to join this study. So, this study did not include participants who had T2D and low functioning kidneys.

The study included 24 participants in the Netherlands and Sweden.

Why was the research needed?

Researchers are looking for a better way to treat people with low functioning kidneys. Before a treatment can be approved for people to take, researchers do clinical studies to find out how it works and how safe it is.

The study treatment, dapagliflozin, is currently used to treat people with T2D. Researchers already did studies with dapagliflozin in participants with T2D. In this study, the researchers wanted to find out more about how dapagliflozin affects the kidneys in people with and without T2D.

People with T2D can have high blood sugar levels, which can lead to medical problems. In serious cases, T2D can also lead to long lasting kidney disease and other kidney problems. People can also have kidney disease without having T2D.

In healthy people, the kidneys help the body control and remove substances, such as sodium, in the urine. In people with low functioning kidneys, sodium levels in the body may increase. Low functioning kidneys may remove less sodium in the urine. Higher sodium levels in the body can cause more kidney damage and increase blood pressure.

Dapagliflozin is an available treatment to control the blood sugar levels in people with T2D. Dapagliflozin works by helping the body remove sugar in the urine. Researchers think that dapagliflozin may also help the body remove excess sodium in the urine.

In this study, the researchers wanted to learn how dapagliflozin affects kidneys in people with and without T2D. To do this, they measured the amount of sodium in the participants' urine throughout the study. The researchers also took blood samples, measured body fluids and blood pressure, and performed other tests to check the participants' health.

What was the purpose of this study?

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

- Did dapagliflozin affect the amount of sodium removed in the urine?
- What medical problems happened during the study?

The answers to these questions are important to learn more about how dapagliflozin works.

What treatments did the participants take?

The participants in this study took dapagliflozin as a tablet by mouth once a day. The treatment doses were measured in milligrams, also written as "mg".

Some of the participants in this study had T2D and healthy kidneys. The other participants did not have T2D, but had low functioning kidneys. Throughout the study, the participants who had T2D continued taking any treatments for T2D that they were on before the study.

The researchers also planned to include participants who had T2D and low functioning kidneys. But, the researchers were not able to find enough of these participants to join this study. So, this study did not include participants who had T2D and low functioning kidneys.

This was an "open-label" study. This means the participants, researchers, study doctors, and other study staff knew what treatment each participant was taking.

The chart below shows the treatment the participants took.

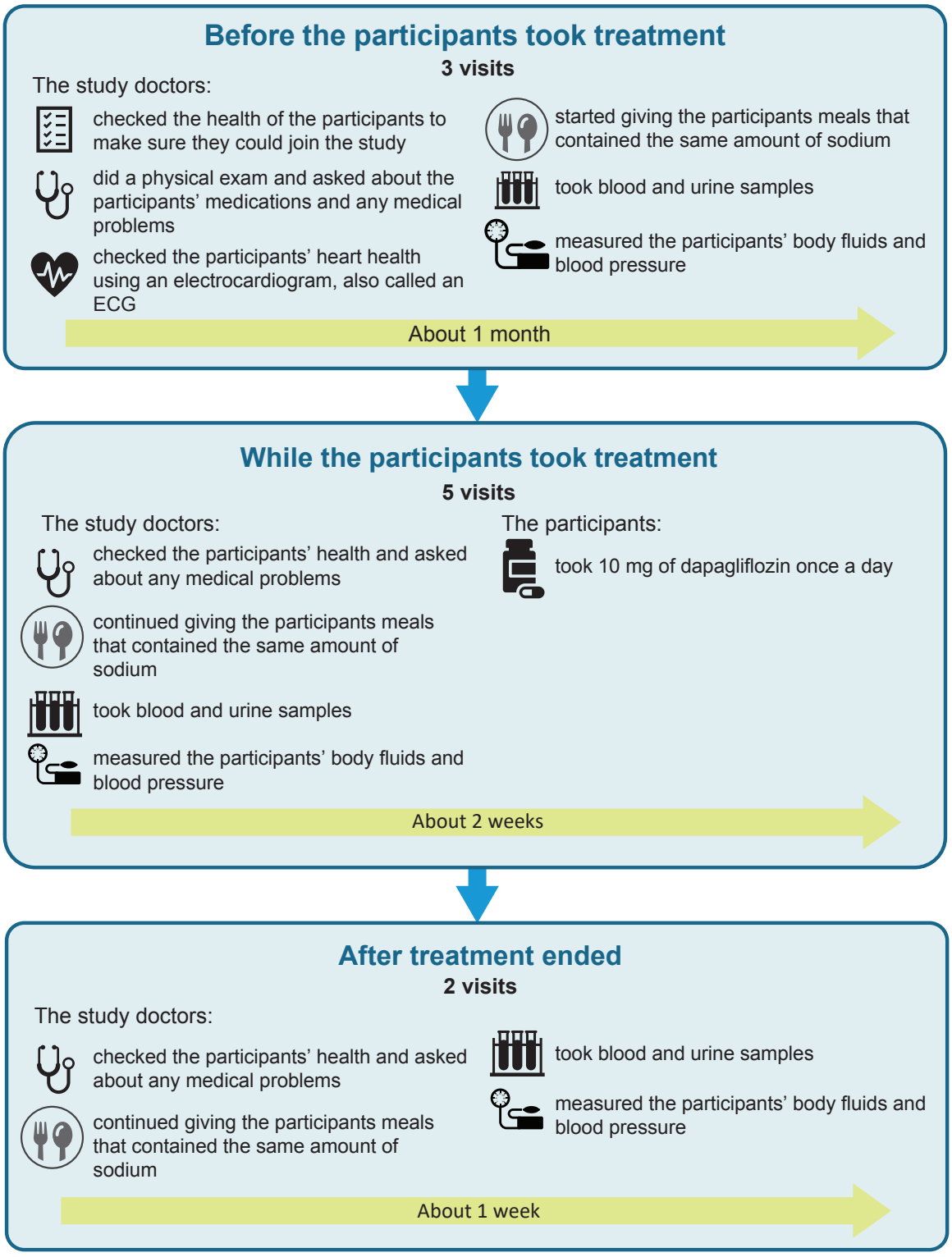
	Participants who had T2D and healthy kidneys	Participants, who did not have T2D, but who had low functioning kidneys
	• 17 participants	• 7 participants
	• 10 mg of dapagliflozin as a tablet by mouth	• 10 mg of dapagliflozin as a tablet by mouth
	• Once a day for about 2 weeks	• Once a day for about 2 weeks

What happened during the study?

The study started in July 2017 and ended in March 2020. The researchers ended the study early before all planned participants joined the study.

During the study, the participants were given meals that contained the same amount of sodium. The researchers did this so that the results were as accurate as possible. Throughout the study, the participants who had T2D continued taking any treatments for T2D that they were on before the study.

The chart 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 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.

Did dapagliflozin affect the amount of sodium removed in the urine?

To answer this question, the study doctors measured the amount of sodium in the participants' urine throughout the study. The researchers compared the results from before the participants took dapagliflozin to the results after they took dapagliflozin.

Overall, the researchers found that compared to before treatment with dapagliflozin:

- The participants who had T2D and healthy kidneys did not have a meaningful change in the amount of sodium in their urine.
- The researchers could not determine if dapagliflozin affected the amount of sodium removed in the urine for the participants who did not have T2D but had low functioning kidneys. This was because too few of these participants joined this study.

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 treatment. 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 treatment. 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 study treatment.

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 16.7% of participants who had adverse reactions during this study thought to be related to study treatment. This was 4 out of 24 participants.

- 23.5% of participants who had T2D and healthy kidneys had adverse reactions thought to be related to study treatment. This was 4 out of 17 participants.
- Of the participants who did not have T2D but had low functioning kidneys, none had adverse reactions thought to be related to study treatment.

None of the participants in this study had serious adverse reactions.

None of the participants left this study due to adverse reactions.

None of the participants died during this study.

What adverse reactions happened during this study?

All of the adverse reactions in this study thought to be related to study treatment happened in the participants who had T2D and healthy kidneys. Some of the participants had more than 1 adverse reaction.

The table below shows the adverse reactions that happened during this study thought to be related to study treatment.

Adverse reactions during this study		
Adverse reaction	**Participants had T2D and healthy kidneys (out of 17 participants)**	**Participants did not have T2D but had low functioning kidneys (out of 7 participants)**
Diarrhea	5.9% (1)	0.0% (0)
Dry skin	5.9% (1)	0.0% (0)
Feeling tired	5.9% (1)	0.0% (0)
Genital infection	5.9% (1)	0.0% (0)
Itchy skin	5.9% (1)	0.0% (0)
Nausea	5.9% (1)	0.0% (0)

How has this study helped patients and researchers?

This study helped researchers learn more about how dapagliflozin affects people with T2D and healthy kidneys.

The researchers could not fully answer the questions in this study for the participants who did not have T2D but had low functioning kidneys. But, the researchers will still be able to use the information learned in this study for future studies.

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 dapagliflozin are ongoing and 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 **"NCT03152084"** into the search box and click **"Search"**.
- www.clinicaltrialsregister.eu. Once you are on the website, click **"Home and Search"**, then type **"2016-002961-79"** in the search box and click **"Search"**.
- www.AstraZenecaClinicalTrials.com. Once you are on the website, type **"D1690C00049"** into the search box, and click **"Find a Study"**.

Full Study Trial: DAPASALT: An Open Label, Phase IV, Mechanistic, Three-Arm Study to Evaluate the Natriuretic Effect of 2-Week Dapagliflozin treatment in Type 2 Diabetes Mellitus Patients with Either Preserved or Impaired Renal Function and Non-Diabetics with Impaired Renal Function

AstraZeneca AB Protocol Number: D1690C00049

AstraZeneca AB sponsored this study and has its headquarters at 151 85 Södertälje, Sweden.

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

Thank you!

Participants in clinical studies 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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Version 1.0 2021_01_08