Clinical Study Results

This summary reports the results of only one study. Researchers must look at the results of many types of studies to understand if a study medication works, how it works, and if it is safe to prescribe to patients. The results of this study might be different than the results of other studies that the researchers review.

Sponsor: Pfizer Inc.

Medicine Studied: Zavzpret™ (zavegepant)

Protocol Number: C5301022

Dates of Study: 10 July 2023 to 05 September 2023

Title of this Study: A Study to Compare Zavegepant Concentration Using Samples Collected From the Vein Versus Patient-Centric Microsampling

[A Pharmacokinetic Study of Zavegepant Intranasal in Healthy Adults Comparing Conventional Venous Blood Sampling With Patient-Centric Sampling]

Date of this Report: 06 September 2024

– Thank You –

If you participated in this study, Pfizer, the Sponsor, would like to thank you for your participation.

This summary will describe the study results. If you have any questions about the study or the results, please contact the doctor or staff at your study site.

Why was this study done?

What is migraine?

Migraine is a type of headache that can cause severe throbbing pain or sensation. It usually happens on 1 side of the head and often comes with a queasy feeling or nausea, vomiting, and extreme sensitivity to light or sound.

Migraine attacks may happen due to many reasons. They may be because of stress, changes in sleep patterns, and/or changes in the body's hormone levels, among many others.

Migraine attacks can last for hours to days. Migraine can negatively affect the daily lives of people who have it.

What is zavegepant?

Zavegepant [zah-VEJ-ah-pant], also called Zavzpret™, is a medication given through the nose as a nasal spray ("intranasal"). The United States (US) Food and Drug Administration (FDA) has approved zavegepant to treat migraine in adults.

In this study, the use of zavegepant in healthy adults is investigational, which means it is not approved by the US FDA.

What was the purpose of this study?

The main goal of this study was to compare the amount of zavegepant in the blood collected using 2 methods:

- Microsampling − also called "patient-centric sampling"
- Standard blood draw − also called "venous blood sampling"

Microsampling collects very small ("micro") amounts of blood from tiny blood vessels called **capillaries**. A microsampling device is placed on the arm. A small tool called a lancet (or needle) pricks the skin with a press of a button, and this creates a slight vacuum that collects blood from capillaries into a tube or pod. This method allows for easier blood collection and less pain compared to a standard blood draw.

A **standard blood draw** collects blood from a **vein**. A needle or catheter (small tube) is inserted into the vein to collect blood into a tube or vial.

Researchers wanted to find out if there were any differences in the amount of zavegepant in the blood collected using these 2 different methods in adults, as this may offer a new way of collecting blood samples in future research trials.

Researchers wanted to know:

- **How did zavegepant act in the body when testing blood samples collected using 2 methods?**
  - Microsampling
  - Standard blood draw
- **What medical problems did participants have during the study?**

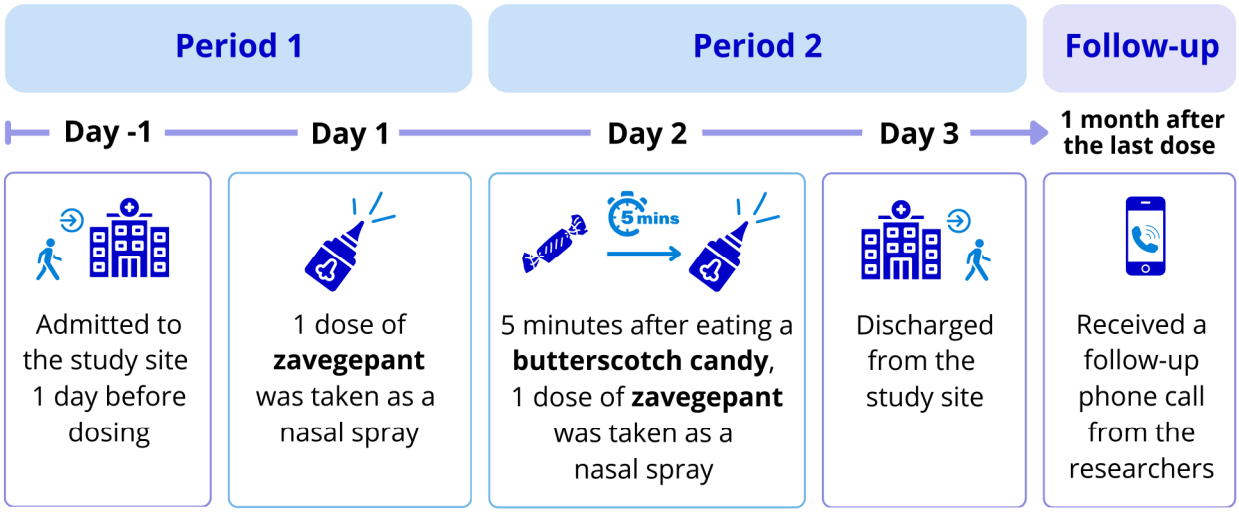
This study in healthy adults did not test if zavegepant helps to treat migraine.

What happened during the study?

How was the study done?

Researchers tested zavegepant 10 milligrams (mg) given as a single-dose nasal spray to a group of healthy participants in 2 dosing periods. During these 2 periods, participants stayed at the study site for 3 nights. The study participants' schedule of activities is shown in Figure 1 below.

Figure 1. What happened in the study?



Period 1

All participants took 1 dose of zavegepant on Day 1 of the study. They must not have had any food or drinks (except water) for 10 hours overnight before dosing.

Participants had blood samples collected to measure the amount of zavegepant in the blood. They all had blood samples collected using 2 methods at the same time: microsampling and standard blood draw.

- **Microsampling:** Participants were given 1 of 2 devices. Half of the participants used Tasso-Plus. The other half of participants used Tasso-M20.
    - **Tasso-Plus** collects **liquid** blood samples from capillaries.
    - **Tasso-M20** collects **dried** blood samples from capillaries.
- **Standard blood draw:** All participants also had blood samples collected from the vein using a standard blood draw at the same time as the microsampling.

Period 2

On Day 2 of the study, all participants were asked to eat a butterscotch candy 5 minutes before taking 1 dose of zavegepant.

All participants were discharged from the study site on Day 3 of the study.

From Period 1 to 2:

- Researchers checked the participants' health and asked them how they were feeling.
- Participants answered questionnaires about the taste of zavegepant after dosing.
- Participants and researchers knew that all participants took zavegepant in this study. This is known as an **open-label** study.

Follow-up

Around 1 month after the last dose, researchers called the participants over the phone to ask how they were feeling.

Where did this study take place?

The Sponsor ran this study at 1 location in the US.

When did this study take place?

It began on 10 July 2023 and ended on 05 September 2023.

Who participated in this study?

The study included healthy adults at least 18 years of age. Japanese participants must have 4 Japanese grandparents born in Japan.

A total of 14 participants took part in this study.

- Overall, 4 men and 10 women participated.
- All participants were between the ages of 23 and 69 years.

All 14 participants who started the study had received zavegepant and finished the study.

How long did the study last?

Each participant was in the study for around 1 month (29 days). The entire study took around 2 months to complete.

When the study ended in September 2023, the Sponsor began reviewing the information collected. The Sponsor then created a report of the results. This is a summary of that report.

What were the results of the study?

How did zavegepant act in the body when testing blood samples collected using 2 methods?

- Microsampling (Tasso devices)
- Standard blood draw

Researchers first measured the blood-to-plasma ratio of zavegepant in the samples taken using Tasso devices. This was done to make sure that microsampling can be compared fairly with the standard blood draw.

- **Blood-to-plasma ratio** compares the amount of drug in whole blood to the amount of drug in the plasma.
- **Whole blood** is made up of red and white blood cells, platelets, and plasma. **Plasma** is the clear yellowish part of the blood.

Researchers found that the blood-to-plasma ratios in some of the blood samples collected using Tasso-M20 in this study had inconsistencies (or did not match up). Because of that, the results of Tasso-M20 were not included. Researchers then compared the blood samples collected using Tasso-Plus with the samples collected using standard blood draw.

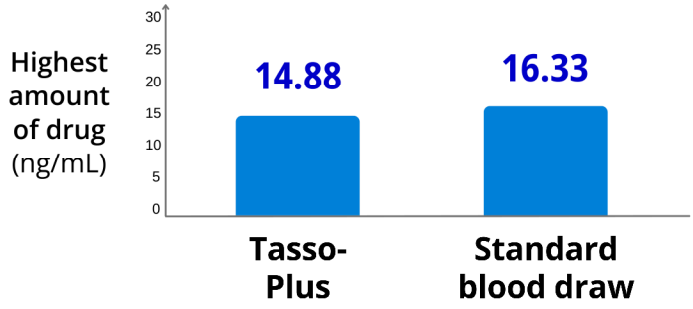
The results shown below are the average measurements among participants in this study after taking 1 dose of zavegepant (10 mg) nasal spray.

What was the amount of zavegepant in the blood after participants took 1 dose of zavegepant?

Highest amount of zavegepant in the blood

The highest amount of zavegepant in the blood after participants took 1 dose of zavegepant is shown in Figure 2 for each blood collection method. The amount of drug in the blood was measured in nanograms per milliliter, also called **ng/mL**.

Figure 2.
Highest amount of zavegepant in the blood

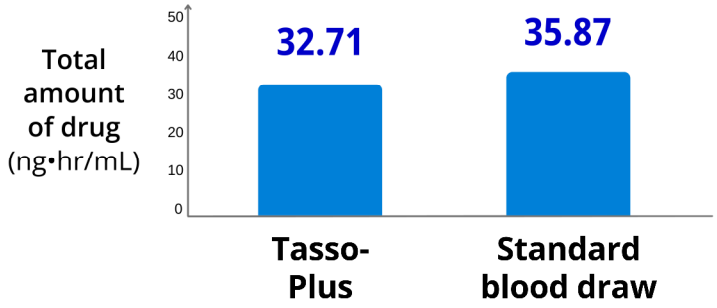


For both blood collection methods, it took around **30 minutes** for zavegepant to reach its highest amount in the blood after participants took 1 dose of zavegepant.

Total amount of zavegepant in the blood

The total amount of zavegepant in the blood from when 1 dose of zavegepant was taken to the time when its lowest amount was detected in the blood is shown in Figure 3 for each blood collection method. The total amount of drug over time in the blood was measured in nanogram hours per milliliter, also called **ng•hr/mL**.

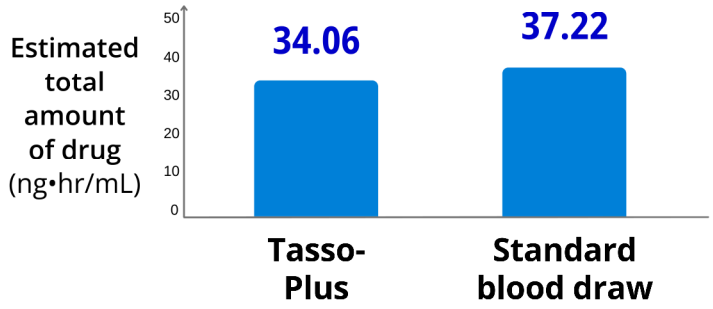
Figure 3.
Total amount of zavegepant in the blood



Estimated total amount of zavegepant in the blood

The estimated total amount of zavegepant in the blood from when 1 dose of zavegepant was taken until zavegepant was removed from the body is shown in Figure 4 for each blood collection method. The estimated total amount of drug over time in the blood was measured in **ng•hr/mL**.

Figure 4.
Estimated total amount of zavegepant in the blood



How long did it take for the amount of zavegepant to reduce by half in the body after participants took 1 dose of zavegepant?

The time it took for the amount of zavegepant to reduce by half in the body after participants took 1 dose of zavegepant is shown below for each blood collection method:

- **Tasso-Plus:** around **3 hours** (2.914 hours)
- **Standard blood draw:** around **4 hours** (3.819 hours)

Overall results:

The researchers have decided that these results in healthy adults are likely not due to chance. After taking 1 dose of zavegepant nasal spray:

> The results of blood samples collected using either method – **Tasso-Plus** or **standard blood draw** – showed no difference in the levels of zavegepant in the body or how zavegepant was processed in the body.

This does not mean that everyone in this study had these results. This is a summary of just some of the main results of this study. Other studies may have different results.

What medical problems did participants have during the study?

The researchers recorded any medical problems the participants had during the study. Participants could have had medical problems for reasons not related to the study (for example, caused by an unknown underlying disease or by chance). Or, medical problems could also have been caused by a study treatment or by another medicine the participant was taking. Sometimes the cause of a medical problem is unknown. By comparing medical problems across many treatment groups in many studies, doctors try to understand what effects a study medication might have on a participant.

Nine (9) out of 14 participants (64.3%) had at least 1 medical problem during the study. None of the participants left the study because of medical problems.

The most common medical problems – those reported by at least 10% of participants – are described in Table 1 on the next page.

Below are instructions on how to read Table 1.

Instructions for Understanding Table 1.

- The **1st** column of Table 1 lists medical problems that were commonly reported during the study by participants who took 1 dose of zavegepant in Periods 1 and 2. All medical problems reported by at least 10% of participants are listed.
- The **2nd** column tells how many of the 14 participants reported each medical problem. Next to this number is the percentage of the 14 participants who reported the medical problem.
- Using these instructions, you can see that 4 out of 14 participants (28.6%) reported headache.

Table 1. Commonly reported medical problems by study participants	
Medical Problem	**Overall Group (14 participants)**
Headache	4 out of 14 participants (28.6%)
Scar	3 out of 14 participants (21.4%)
Cut or wound in the skin (laceration)	3 out of 14 participants (21.4%)
Nausea or queasy feeling	2 out of 14 participants (14.3%)
Dizziness	2 out of 14 participants (14.3%)
Change in the sense of taste (dysgeusia)	2 out of 14 participants (14.3%)
Nose or nasal discomfort	2 out of 14 participants (14.3%)

Did study participants have any serious medical problems?

A medical problem is considered “serious” when it is life-threatening, needs hospital care, or causes lasting problems.

None of the 14 participants had serious medical problems or died during the study.

Where can I learn more about this study?

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

For more details on your study protocol, please visit:

www.pfizer.com/research/research_clinical_trials/trial_results	Use the protocol number **C5301022**

The full scientific report of this study is available online at:

www.clinicaltrials.gov	Use the study identifier **NCT05948085**

Please remember that researchers look at the results of many studies to find out which medicines can work and are safe for patients.

Again, if you participated in this study, **thank you** for volunteering. We do research to try to find the best ways to help patients, and you helped us to do that!