# Summary of Clinical Trial Results

## A study called EXUVIA looked at whether the medicine balovaptan, was safe to use and able to reduce symptoms of posttraumatic stress disorder in adults

See the end of the summary for the full title of the study.

## About this summary

This is a summary of the results of a clinical trial (called a 'study' in this document) – written for:

- members of the public and
- people who took part in the study.

This summary is based on information known at the time of writing.

The study started in August 2022 and finished in October 2023. This summary was written after the study had ended.

No single study can tell us everything about the risks and benefits of a medicine. It takes lots of people in many studies to find out everything we need to know. The results from this study may be different from other studies with the same medicine.

**This means that you should not make decisions based on this one summary – always speak to your doctor before making any decisions about your treatment.**

### Contents of the summary



### Glossary

- PTSD = posttraumatic stress disorder

## Thank you to the people who took part in this study

The people who took part (study participants) have helped researchers to answer important questions about posttraumatic stress disorder (PTSD) and the medicine that was studied – 'balovaptan'.

## Key information about this study

**Why is this study being done?**

- This study was done to compare how well people with posttraumatic stress disorder responded to treatment with a medicine compared with placebo.

**Which medicine was studied and who took part?**

- In this study, people were given either the medicine being studied (called 'balovaptan') or a placebo – it was decided by chance which treatment each person was given.
- This study included 29 people in the United States.

**What were the results?**

- It was unclear if the use of balovaptan could improve PTSD symptoms. This was because all people in the study showed improvement in their PTSD symptoms and severity (even those people taking a placebo).

**What were the side effects?**

- Around 55% of all people in this study had at least one side effect, but there were no serious side effects.
- The most common side effects (occurring in two or more people) were headaches (18%) and feeling sick (7%).

## 1. General information about this study

### Why was this study done?

Posttraumatic stress disorder (PTSD) is a mental health disorder that may occur after a person experiences a traumatic event. PTSD negatively impacts a person's quality of life and affects more than 13 million people in the United States, with limited effective treatments available. In this study, researchers looked at how people with PTSD responded to treatment with balovaptan.

### What were the study medicines?

A medicine called 'balovaptan' was the focus of this study (pronounced 'bal – oh – vap – tan').

- Balovaptan works by ensuring the brain's response to stress does not lead to high levels of fear, anxiety or aggression. This may mean that people who have experienced a traumatic event in the past do not react the same way to potentially minor stressful situations they may encounter afterwards.

Balovaptan was compared with a 'placebo' (pronounced 'plah – see – bo').

- The placebo tablets looked the same as the balovaptan tablets but did not contain any real medicine. This means it had no medicine-related effect on the body.
- Researchers compared the medicine being studied, balovaptan, with a placebo so they could show which benefits or side effects were actually caused by the medicine.

## What did researchers want to find out?

- Researchers did this study to see how well balovaptan worked (see section 4 “What were the results of the study?”).
- They also wanted to find out how safe the medicine was – by checking how many people had side effects when taking balovaptan during this study (see section 5 “What were the side effects?”).

**The main question that researchers wanted to answer:**

1. Was there any improvement in PTSD symptoms and their severity after taking the medicine balovaptan for 12 weeks?

**Other questions that researchers wanted to answer included:**

2. What changes in terms of symptoms and depression did people in the study report while taking balovaptan?
3. How safe is balovaptan when taken for 12 weeks?

## What kind of study was this?

This study was a ‘Phase 2 proof-of-concept’ study. This means that the study was testing if balovaptan shows improvement in the symptoms of people with PTSD. In this study, people with PTSD either took balovaptan or a placebo – this was to find out if balovaptan worked to reduce the symptoms and severity of PTSD.

The study was ‘randomized’. This means that it was decided by chance which of the medicines people in the study would have – like tossing a coin. Randomly choosing which medicine people take, makes it more likely that the types of people in both groups will be similar. Other steps were taken to ensure that people were similar across the two groups in terms of gender, type of trauma and medicines taken.

This was a ‘double-blind’ study. This means that neither the people taking part in the study, nor the study doctors, knew which of the study medicines people were taking. ‘Blinding’ of a study is done so that any effect seen from the medicine is not due to something people expected to happen – if they had known which medicine they were taking.

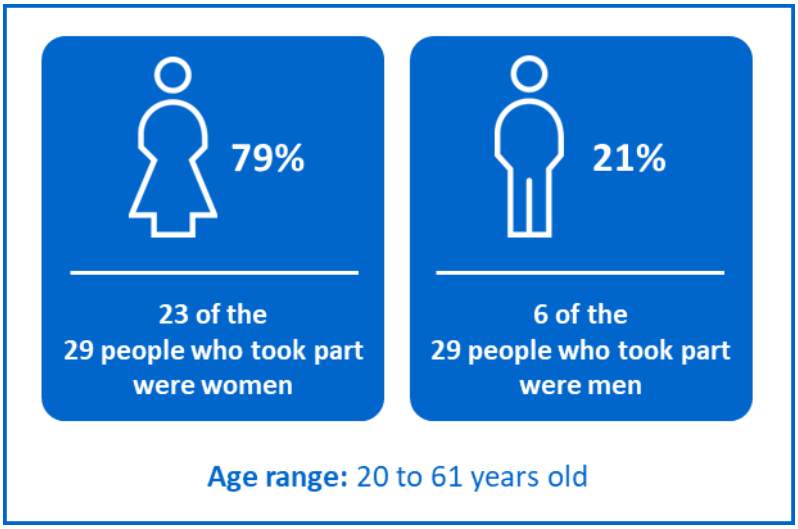
## When and where did the study take place?

The study started in August 2022 and finished in October 2023. This summary was written after the study had ended.

The study took place at eight study centers across the United States.

## 2. Who took part in this study?

In this study, 29 people with PTSD took part. People who took part in the study were between 20 and 61 years of age. Most of the people in the study were female, 23 of the 29 people (79%), and 6 of the 29 people (21%) were male.




People could take part in the study if:

- They had moderate-to-severe PTSD as adults between 6 months to 10 years before the study started.
- They were taking other treatments for PTSD that were not working (no improvement in symptoms) or had stopped a previous treatment for PTSD that had not worked (no improvement in symptoms or there were side effects from the medication).

People could not take part in the study if:

- They had any traumatic event within the last 3 months.
- They had any other severe mental health or specific health conditions.

## 3. What happened during the study?

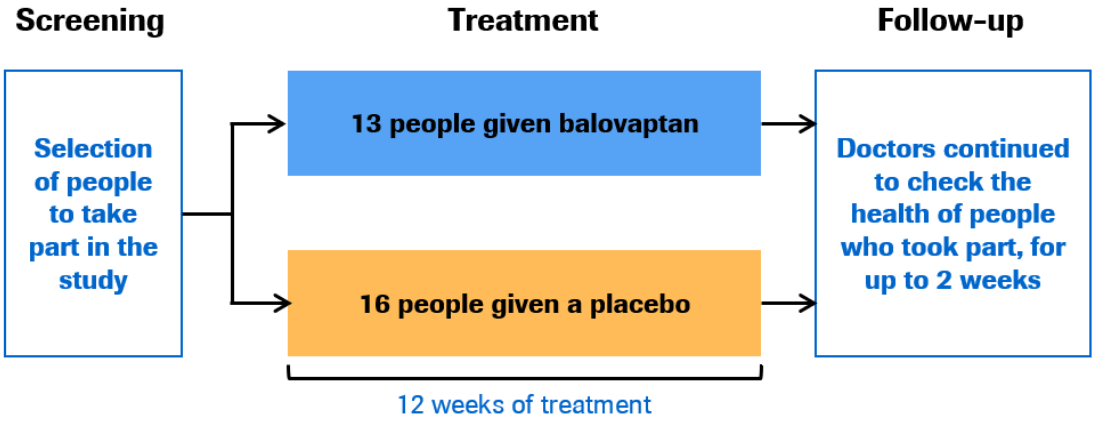
During the study, people were selected by chance to get one of two treatments. The treatments were selected at random – by a computer.

The treatment groups were:

- **Balovaptan** – tablets were taken once a day in the morning and swallowed whole with liquid.
- **Placebo** – tablets were taken once a day in the morning and swallowed whole with liquid.

People in the study took the treatments for 12 weeks. At the start of the study, after 2 weeks, 6 weeks and 12 weeks people in the study were asked about any side effects, suicidal thoughts and had health checks performed.

After the study finished, the people who took part were asked to go back to their study center for more visits – to check their overall health. Look below to see more information about what happened in the study.




## 4. What were the results of the study?

### **Question 1:** Was there any improvement in PTSD symptoms and their severity in the people after taking the medicine balovaptan for 12 weeks?

Researchers looked at PTSD symptoms and severity. On average, people who were given balovaptan for PTSD got better after 12 weeks; but so did the people who were given a placebo. We do not know if the medication made a real difference – it could have been caused by chance.

### **Question 2:** What changes in terms of symptoms and depression did people in the study report while taking balovaptan?

Another piece of information that researchers collected was the change in PTSD symptoms and depression over time. On average, people who were given balovaptan had fewer PTSD symptoms and their depression got better after 12 weeks; but so did the people who were given a placebo. We do not know if the medication made a real difference – it could have been caused by chance.

### **Question 3:** How safe is balovaptan when taken for 12 weeks?

Other information that researchers collected was on the side effects that people experienced during the 12 weeks of balovaptan treatment (see section 5). Overall, balovaptan was found to be safe for use over the period of 12 weeks in this study.

## 5. What were the side effects?

Side effects are unwanted medical problems (such as feeling dizzy) that happen during the study.

- Not all of the people in this study had all of the side effects.
- Side effects may be mild to very serious and can be different from person to person.
- It is important to be aware that the side effects reported here are from this single study. Therefore, the side effects shown here may be different from those seen in other studies.
- Side effects are summarized in the following sections.

### Side effects

During this study around (half) 55% of the people had at least one side effect, but there were no serious side effects and no people died in the study. A side effect is considered 'serious' if it is life-threatening, if a person in the study needs hospital care, or it causes lasting problems.

Mild (minimal discomfort, but no interference with normal daily activity), moderate (discomfort sufficient to reduce or affect normal daily activity) and severe (prevention of normal daily activity) side effects across both treatment groups are shown in the following table. Some people had more than one side effect – this means that they are included in more than one row in the table.

| **Mild, moderate and severe side effects reported in this study** | **People taking balovaptan**<br><br>(13 people total) | **People taking placebo**<br><br>(16 people total) |
|---|---|---|
| Mild | 46.2%<br>(6 out of 13) | 31.3%<br>(5 out of 16) |
| Moderate | 46.2%<br>(6 out of 13) | 18.8%<br>(3 out of 16) |
| Severe | 0.0%<br>(0 out of 13) | 12.5%<br>(2 out of 16) |

During the study, some people decided to stop taking their medicine because of side effects:

- In the placebo group, 2 out of 16 people (13%) stopped taking their medicine.
- No one in the balovaptan group stopped taking their medicine.

### Most common side effects

The most common side effects across both treatment groups (occurring in two or more people) are shown in the following table. Some people had more than one side effect – this means that they are included in more than one row in the table.

| Most common side effects reported in this study | People taking balovaptan<br><br>(13 people total) | People taking placebo<br><br>(16 people total) |
|---|---|---|
| Headache | 7.7%<br>(1 out of 13) | 18.8%<br><br>(3 out of 16) |
| Feeling sick (nausea) | 7.7%<br>(1 out of 13) | 6.3%<br><br>(1 out of 16) |
| Overdose* | 15.4%<br><br>(2 out of 13) | 0.0%<br><br>(0 out of 13) |

*One person in the study lost their medication and another could not remember if they took their medication. Both were reported 'simply' as overdoses without any associated side effects.

### Other side effects

You can find information about other side effects (not shown in the sections above) on the websites listed at the end of this summary – see section 8.

## 6. How has this study helped research?

The information presented here is from a single study of 29 people with PTSD. These results helped researchers learn more about the effect of balovaptan on the symptoms and severity of PTSD, but the use of balovaptan in improving PTSD symptoms was uncertain.

Some limitations of this small study were the low number of people with PTSD, which made collecting enough results difficult. The people in the study were also mainly female living in the United States, which means that the results may not be the same in other countries.

No single study can tell us everything about the risks and benefits of a medicine. It takes lots of people in many studies to find out what we need to know. The results from this study may be different from other studies with the same medicine.

- **This means that you should not make decisions based on this one summary – always speak to your doctor before making any decisions about your treatment.**

## 7. Are there plans for other studies?

At the time of writing this summary, no more studies looking at balovaptan are planned at the current time.

## 8. Where can I find more information?

You can find more information about this study on the websites listed below:

- https://clinicaltrials.gov/study/NCT05401565
- https://forpatients.roche.com/en/trials/psychiatric-disorder/ptsd/study-to-evaluate-the-efficacy-and-safety-of-balovaptan-98241.html

If you would like to find out more about the results of this study, the full title of the relevant scientific paper is: "Efficacy and Safety of Balovaptan for Posttraumatic Stress Disorder: A Randomized, Placebo-Controlled Trial". The authors of the scientific paper are: Sarah Marler, Michael Rabbia, Kevin Sanders, Michael Derks, Lorna Bailey and others. At the time of publishing this summary we have submitted the data for a journal publication, but to-date it has not been published yet.

### Who can I contact if I have questions about this study?

If you have any further questions after reading this summary:

- Visit the ForPatients platform and fill out the contact form – https://forpatients.roche.com/en/trials/psychiatric-disorder/ptsd/study-to-evaluate-the-efficacy-and-safety-of-balovaptan-98241.html
- Contact a representative at your local Roche office.

If you took part in this study and have any questions about the results:

- Speak with the study doctor or staff at the study hospital or clinic.

If you have questions about your own treatment:

- Speak to the doctor in charge of your treatment.

### Who organized and paid for this study?

This study was organized and paid for by F. Hoffmann-La Roche Ltd who have their headquarters in Basel, Switzerland.

### Full title of the study and other identifying information

The full title of this study per ClinicalTrials.gov is: "Study to Evaluate the Efficacy and Safety of Balovaptan in Adults With Post-Traumatic Stress Disorder (PTSD)".

The study is known as 'EXUVIA'.

- The protocol number for this study is: BN43546.
- The ClinicalTrials.gov identifier for this study is: NCT05401565.