Study Number: 4345-CL-0002
EudraCT number: NA
ClinicalTrials.gov Identifier: NCT02720263

Plain Language Summary of Study Results

Astellas is grateful to the patients who took part in this clinical study. Thank you.

What was the Study Called?

A Study to Assess Safety, Tolerability, Pharmacokinetics and Pharmacodynamics of ASP4345 in Patients with Schizophrenia

Why was this Study Needed?

Schizophrenia is a mental disorder. Patients with schizophrenia might hear and see things that are not there. They might hold beliefs that are not true. Also, they have trouble organizing thoughts. These symptoms are called psychotic or positive symptoms. Patients with schizophrenia find it difficult to show emotions and might seem depressed or withdrawn. These symptoms are called negative symptoms. They might also have symptoms known as cognitive symptoms which affect their thought processes. These include difficulty making decisions and paying attention.

This was a phase 1 study. These studies often look at what is the best dose for a study medicine. And they look at the safety of the dose. Phase 1 studies often include healthy participants. And they can also include patients with certain health conditions.

In this study, patients with schizophrenia were treated with ASP4345. This study tried to answer these questions:

- How much of ASP4345 stays in the blood of patients over time?
- How much of ASP4345 enters the urine of patients over time?
- How safe is ASP4345? And how well do patients tolerate it?
- What are the unwanted effects patients have from ASP4345?

The study started in March 2016 and ended in June 2017. The sponsor of this study (Astellas) reviewed all the study information and created a report of the results. This is a summary of that report.

What Kind of Study was this and Who Took Part in It?

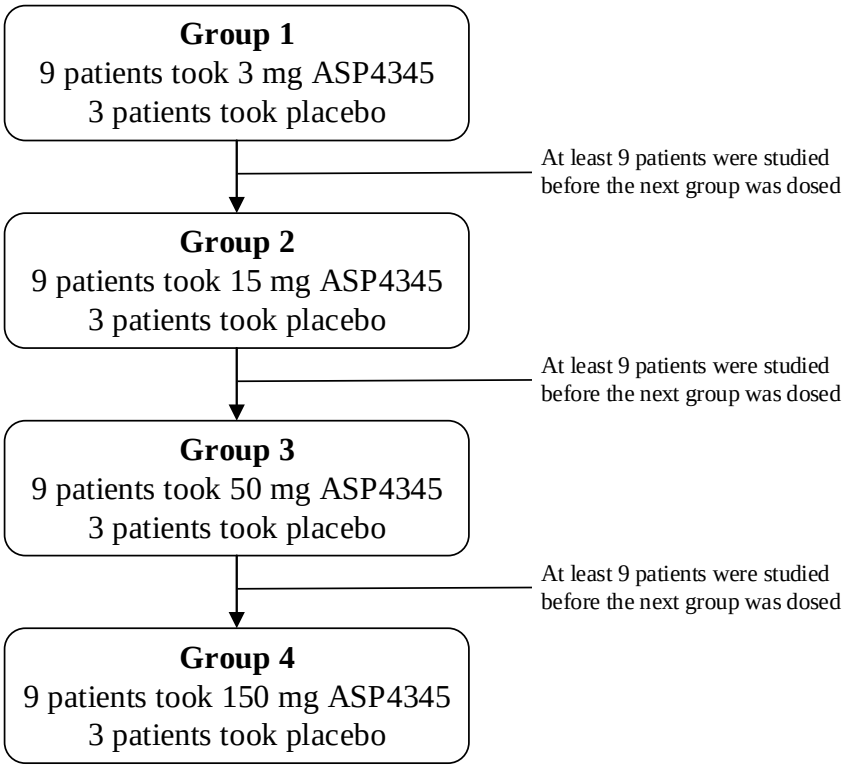
This was a “double-blinded” study. That means that the patients and the study doctors did not know who took which of the study medicines. This helps make study results fair and unbiased. One of the study medicines was ASP4345. The other study medicine was a placebo. A “placebo” is a dummy treatment that looks like medicine, but does not have any medicine in it.

This study included men and women between 18 and 60 years old who had schizophrenia. They took antipsychotic medicines on an ongoing basis before the study. Their condition was considered stable.

What Happened during the Study?

During the study, patients visited the clinic several times. At the first visit the study doctor checked if patients could take part in the study. Patients who could be in the study were in 1 of 4 treatment groups. Each group had 12 patients in it. In each group, patients were picked to take either ASP4345 or placebo, by chance alone. ASP4345 was taken by mouth in milligram (mg) doses that increased with each group. Placebo is a dummy treatment. It has no medicine in it.

Dosing Plan



Patients took their study medicine once a day for 14 days. On 3 of the days, the patients took their dose on an empty stomach (after fasting overnight for 10 hours). This was to make sure that food had no effect on the amount of study medicine in the blood. All other days, the patients ate breakfast an hour before taking their dose.

This study took place at 1 clinic in the United States. 48 patients were in the study.

	Number of Patients
Age Group	
27 years to 60 years	48
Sex	
Men	38
Women	10

What Were the Study Results?

- 36 patients took ASP4345 (9 patients in each dose treatment group).
- 12 patients took placebo (3 patients in each dose treatment group).

This study answered the following questions:

How much ASP4345 stays in the blood of patients over time?

The answer to this question helps the study doctors decide on the best dose. And it helps study doctors understand how often a patient needs to take a dose. To do this, study doctors took blood samples from patients after the patient took ASP4345. They measured how much ASP4345 was in the patient's blood over time.

The level of ASP4345 in the blood was stable after 5 days of dosing. This means it was not building up in the blood anymore. This was true for all 4 dose treatment groups.

The amount of ASP4345 increased in the blood as the dose increased.

The time it took for the level of ASP4345 in the blood to decline by half was about 11 to 27 hours. This is called the half-life. The 50 milligram treatment group had the highest average half-life.

How much ASP4345 enters the patient's urine over time?

Medicines usually leave the body in urine or in stools. To learn how much ASP4345 is in the patient's urine, study doctors took urine samples from patients after the patient took ASP4345. They measured the level of ASP4345 in the urine over time. In this study, the level of ASP4345 in the patient's urine was low. Less than 1% of the dose of ASP4345 was in the patient's urine. This was true for all 4 dose treatment groups.

What Adverse Reactions did Patients Have?

A lot of research is needed to know whether a medicine causes a medical problem. So when new medicines are being studied, researchers keep track of all medical problems that patients have while they are in the study. These medical problems are called "adverse events" and are recorded whether or not they might be caused by the treatment taken. An "adverse reaction"

is any medical problem or "adverse event" that is judged by the study doctor to be possibly caused by a medicine or treatment used in the study.

How many patients had adverse reactions during this study?

8 patients who took placebo (66.7%, or 8 out of 12 patients) had adverse reactions.

24 patients who took ASP4345 (66.7%, or 24 out of 36 patients) had adverse reactions.

The table below shows the most common adverse reactions for patients.

Adverse Reaction	**ASP4345 (out of 36 patients)**	**Placebo (out of 12 patients)**
Sleepiness, the state of feeling drowsy, ready to fall asleep	7 (19.4%)	1 (8.3%)
Constipation	5 (13.9%)	0
Headache or head pain	5 (13.9%)	2 (16.7%)

Did any patients have serious adverse reactions during this study?

An adverse reaction is considered "serious" when it is life-threatening, causes lasting problems or needs hospital care.

None of the patients experienced a serious adverse reaction.

Where Can I Learn More About This Study?

This document is a short summary of the main results from this study. You can find this summary and more information about this study online at http://www.astellasclinicalstudyresults.com.

Please remember that researchers look at the results of many studies to find out how well medicines work and which adverse reactions they might cause. This summary only shows the results of this 1 study. Your doctor may help you understand more about the results of this study.

Sponsor contact details:

Astellas Pharma Global Development Inc.
1 Astellas Way
Northbrook, IL 60062
USA