Summary of Results for Laypersons

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

What was the Study Called?

A Phase 1 Randomized, 2-way, Crossover Study to Assess the Safety, Tolerability, Pharmacodynamics and Pharmacokinetics of ASP6981 in Subjects with Schizophrenia.

Why was this Study Needed?

Schizophrenia is a serious mental disorder. It can affect how a person behaves, feels or thinks. People may see things or hear voices that other people cannot see or hear. These symptoms are called positive symptoms. Or a person may withdraw from other people. They have trouble showing their feelings or relating to others. These symptoms are called negative symptoms. Or they may have problems with learning, memory, attention and decision making. Having these types of problems is called cognitive impairment. People with this symptom may not speak clearly or they can't remember things. Or they may have problems paying attention or completing tasks. Some symptoms of schizophrenia can be treated with antipsychotic medicines. But these medicines may not improve cognitive impairment. ASP6981 is an oral (taken by mouth) experimental medicine. It is being studied for treating schizophrenic patients with cognitive impairment.

This study was conducted in patients who had been diagnosed with schizophrenia. Patients took either a low or a high dose of ASP6981 or placebo for 14 days. The section below describes what placebo tablets are. The questions this study asked were whether ASP6981 is safe and how well patients tolerate it. And it asked what the effects of ASP6981 are on the electrical activity of the brain. And on the patient's learning, memory, attention, and decision making. It was also important to find out what unwanted effects these patients had from the study medicines.

The study started in January 2018 and ended in May 2018. When the study ended, 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 (50 mg or 135 mg dose of ASP6981 or placebo). A "placebo" is a dummy treatment such as a tablet or capsule that looks like a medicine, but does not have any medicine in it. Using a placebo helps make study results fair and unbiased, because study doctors and patients cannot tell who is taking a placebo, and who is taking the test medicine.

This study included patients diagnosed with schizophrenia. They were considered by their doctors to be stable. This means they had a low to moderate level of symptoms such as hearing voices or seeing things that are not there. And they had a moderate level of symptoms such as withdrawing from others or having problems relating to others. The

patients had been on antipsychotic medicines for 2 months or more for oral (taken by mouth) medicines. Or 3 months or more for injected medicines. The patient was considered an adult by local regulations. And the patient was otherwise healthy and from 18 years of age up to and including 55 years. During the study, the doctor did a check-up of the patients at several study visits. At the first visit, patients were checked to see if they could be in the study.

If patients could be in the study, they were picked for 1 of the following treatment groups by chance alone (randomized). Patients took ASP6981 (50 mg or 135 mg) or placebo twice a day for 14 days in each period. Patients also continued taking their prescription medicines for schizophrenia throughout the study.

	Period 1	**Period 2**
Treatment Group 1 (8 patients)	50 mg ASP6981	placebo
Treatment Group 2 (8 patients)	placebo	50 mg ASP6981
Treatment Group 3 (8 patients)	135 mg ASP6981	placebo
Treatment Group 4 (8 patients)	placebo	135 mg ASP6981

Between period 1 and 2, patients did not take any study medicine for 2 to 3 weeks. During this time, the study medicine from period 1 was removed from the patient's body before they started period 2.

This study took place at 2 clinics in USA. 32 patients were in the study. Out of these patients, 31 patients took at least 1 dose of study medicine.

	Number of Patients (out of 31 patients)
Age Group	
Aged between 18 and 64 years	31
Sex	
Men	24
Women	7

What Were the Study Results?

This study was conducted in patients diagnosed with schizophrenia. Patients took either 50 mg or 135 mg of ASP6981 or placebo twice a day for 14 days in each period. This study looked at what the effects of ASP6981 are on the electrical activity of the brain. And on the patient's learning, memory, attention, and decision making (cognitive function). Electroencephalograms (EEGs) looked at the electrical activity in the patient's brain. The patient's cognitive function was tested by having the patient complete a series of tasks. These tasks measured the patient's learning, memory and attention. And they measured how the patient used information and made decisions.

The results showed that there was no difference between ASP6981 (low or high dose) and placebo in effects on the patient. No difference was seen in electrical activity in the patient's brain. And no difference was seen in the patient's cognitive function.

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.

The table below shows the most common adverse reactions experienced by patients who took at least 1 dose of study medicine in this study.

Adverse Reactions	ASP6981 (out of 31 patients)	Placebo (out of 31 patients)
Any adverse reaction	4 (12.9%)	4 (12.9%)
Sleepiness, the state of feeling drowsy, ready to fall asleep	2 (6.5%)	1 (3.2%)
Difficulty sleeping or falling asleep	1 (3.2%)	0
Dizziness (or sensation of lightheadedness, unsteadiness, or giddiness)	1 (3.2%)	0
Dry mouth	1 (3.2%)	0
Headache or head pain	0	1 (3.2%)
Nausea or the urge to vomit	1 (3.2%)	0
Nightmare	1 (3.2%)	0
Uncomfortable feeling of inner restlessness and a compelling need to be in constant motion	0	2 (6.5%)

An adverse reaction is considered "serious" when it is life-threatening, causes lasting problems or needs hospital care. No patient experienced a serious adverse reaction in this study.

Where Can I Learn More About This Study?

This document is a short summary of the main results from this study and reflects the information available as of October 2018. 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
1 Astellas Way
Northbrook, IL 60062
USA