Summary of Results for Laypersons

What was the Study Called?

A Phase 2a, Randomized, Double-Blind, Multicenter, Placebo and Active Controlled Study to Assess Analgesic Efficacy and Safety of ASP3662 in Subjects with Painful Diabetic Peripheral Neuropathy

Why was this Study Needed?

The peripheral nerves are the nerves outside of the spinal cord and brain. Peripheral neuropathic pain is caused by damage to these nerves (called "peripheral nerve damage"). This pain usually occurs in the hands and feet but can also occur in other body locations. The cause of painful diabetic peripheral neuropathy (PDPN), or diabetic nerve pain, is chronic high blood sugar and diabetes. Diabetes is a disease in which the blood sugar level is too high. Pregabalin is a prescription medicine for the treatment of neuropathic pain. It is also approved to treat PDPN, epilepsy (abnormal electrical activity in the brain), pain caused by damage to the nerve cells and skin because of Shingles and fibromyalgia (pain of the muscles). However, some patients may not respond to treatment with pregabalin. Therefore, there was a need to study new treatments for PDPN. ASP3662 is an experimental medicine. It works by blocking the enzymes (a protein inside cells of organs like the brain and liver that causes chemical changes) that turn inactive glucocorticoids (a type of steroid hormone) into active glucocorticoids.

This study was conducted in patients who had PDPN. Patients took ASP3662, pregabalin or placebo. The section below describes what placebo tablets are. The main question this study helped answer was which study medicine (ASP3662, pregabalin or placebo) provided improvement in reducing the pain of patients with PDPN. It was also important to find out what unwanted effects these patients had from the study medicines.

The study started in May 2015 and ended in May 2016. The sponsor of this study (Astellas) did a review of the study results after 150 patients had their pain measured after 6 weeks of treatment. The review showed that pain relief was not any better with ASP3662 compared to the placebo group and the sponsor decided to end the study. When this study ended, 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 researchers did not know who took which of the study medicines (ASP3662, pregabalin 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 researchers and patients cannot tell who is taking a placebo, and who is taking the test medicine.

Clinical studies have a list of requirements for patients who can be in a study ("inclusion" criteria) and patients who cannot take part in a study ("exclusion" criteria). The requirements for this study are listed below.

Women and men aged 18 years or older could be in the study if:

- They had diabetes (a disease in which the blood sugar level is too high).
- They had a history of PDPN for at least 1 year.
- Their glycosylated hemoglobin (HbA1c) level was less than or equal to 9.5% at the start of the study. HbA1c is a test used to measure the average amount of blood sugar in the blood over a 3-month period.
- Their diabetes medication had been stable for at least 3 months before the start of the study.
- They had moderate to severe pain before the start of the study.
- They were willing to stop taking all of their current medicines used to treat PDPN during the study.

Patients could not take part in this study if:

- They had used pregabalin (one of the study medicines) to treat PDPN prior to the start of the study and it did not work.
- They tried and failed 3 or more medicines to treat PDPN within the last 3 years.
- They had moderate to severe pain due to causes other than PDPN.
- They had peripheral neuropathy due to causes other than diabetes.
- They had amputations to the lower part of their body that were not caused by an accident.
- They had a foot ulcer within 3 months prior to the start of the study.
- They had a history of depression within the last 3 years or a history of attempted suicide.

During the study, the study doctor did a check-up of the patients at all study visits. At the first visit, patients were checked to see if they could be in the study. Patients who could be in the study were picked for a treatment (ASP3662, pregabalin or placebo) by chance alone.

- ASP3662: Patients took ASP3662 tablets (10 mg) once daily and pregabalin placebo tablets 3 times daily
- Pregabalin: Patients took pregabalin tablets (up to 300 mg) 3 times daily and ASP3662 placebo tablets once daily
- Placebo: Patients took ASP3662 placebo tablets once daily and pregabalin placebo tablets 3 times daily

The patients could take the study medicine until their PDPN got worse, they had unwanted effects they could not tolerate or they asked to stop treatment.

This study took place at 24 clinics in the United States. 115 patients were in the study. Out of these patients, 114 took at least 1 dose of the study medications.

	Number of Patients (out of 114 Patients)
Age Group	
Aged younger than 65 years	79
Aged 65 to 75 years	35
Aged older than 75 years	0
Sex	
Men	63
Women	51
Clinic Location	
US	114

What Were the Study Results?

The main question this study helped answer was which study medicine (ASP3662, pregabalin or placebo) provided improvement in reducing the pain of patients with PDPN.

The mean (or average) change in pain score for patients who took ASP3662 (-1.73) was about the same as the patients who took placebo (-2.10) and pregabalin (-1.25). This means that there was little difference in pain reduction between the study medicines.

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 adverse reactions experienced by patients who took at least 1 dose of study medicine in the study.

Adverse Reaction	Placebo (out of 37 Patients)	ASP3662 (out of 38 Patients)	Pregabalin (out of 39 Patients)
Any adverse reaction	4 (10.8%)	4 (10.5%)	10 (25.6%)
Headache or head pain	2 (5.4%)	1 (2.6%)	1 (2.6%)
Nausea or the urge to vomit	1 (2.7%)	1 (2.6%)	0
Increased blood level of a form of fat called triglyceride	1 (2.7%)	0	0
Increase in weight	1 (2.7%)	0	0
A problem that prevents a person from experiencing satisfaction from sexual activity	0	0	1 (2.6%)
Blurred vision	0	0	1 (2.6%)
Commonly known as "pins and needles," where part of the body (typically a foot or hand) begins to tingle and becomes numb, or "falls asleep"	0	1 (2.6%)	0
Constipation	0	0	1 (2.6%)
Diarrhea	0	1 (2.6%)	0
Dizziness (or sensation of lightheadedness, unsteadiness or giddiness)	0	0	1 (2.6%)
Feeling of spinning or whirling	0	0	1 (2.6%)
Increased blood level of creatinine (a substance normally eliminated by the kidneys into the urine)	0	1 (2.6%)	0
Limp or difficulty walking	0	0	1 (2.6%)
Muscle spasms	0	0	1 (2.6%)
Reduction in blood platelets, which increases risk of bleeding or bruising	0	1 (2.6%)	0
Sleepiness, the state of feeling drowsy, ready to fall asleep	0	0	2 (5.1%)
Sudden reddening of the face and/or neck	0	1 (2.6%)	0
Swelling of the ankles, feet or fingers	0	0	1 (2.6%)
To make drowsy/sleepy	0	1 (2.6%)	0
Trouble with memory	0	1 (2.6%)	0

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

1 patient experienced a serious adverse reaction in this study. This patient, who took ASP3662, experienced the serious adverse reaction of reduction in blood platelets, which increases risk of bleeding or bruising.

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 November 2016. 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.

Sponsor contact details:

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