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, Open-label Study to Investigate the Absorption, Metabolism and Excretion of [^{14}C]-ASP2215 in Patients with Advanced Solid Tumors.

Why was this Study Needed?

A solid tumor is an abnormal mass of tissue that usually does not contain cysts or liquid areas. Solid tumors may be benign (not cancer), or malignant (cancer). Different types of solid tumors are named for the types of cells that form them. The most commonly used treatments for solid tumors include some combination of surgery, radiation therapy and chemotherapy. However, some advanced solid tumors cannot be cured or controlled with these treatments and continue to grow and advance. Therefore, there was a need to study new treatments for advanced solid tumors.

Gilteritinib (also known as ASP2215) is a medicine taken by mouth (oral dose). It is designed to slow down the growth of cancer cells by blocking proteins that stimulate production of cancer cells. When these proteins are blocked, they can no longer help cancer cells grow or survive.

This study was conducted in patients with any type of advanced cancer that forms solid tumors. The main question this study helped answer was how gilteritinib was taken up, broken down, distributed through the body and removed from the body in patients with solid tumors who received gilteritinib and a single oral dose of radiolabeled[C^{14}] -gilteritinib. Gilteritinib was specially prepared to contain radiolabeled carbon [C]. [C^{14}] is a naturally occurring radioactive form of the element carbon. Adding a low dose of radiation to gilteritinib does not change how the drug works, but makes it possible to see how the drug appears in the blood, urine, and stool after gilteritinib is given.

It was also important to find out what unwanted effects the patients had from taking gilteritinib.

The study started in March 2016. The study ended in June 2017. When the 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 an “open-label” study. This means that all patients and the study doctor knew which study medicine they took (gilteritinib).

The study included adult men and women with solid tumors in an advanced stage who were expected to live more than 12 weeks. The tumor could not be cured by established therapies. Prior to this study, they had received 5 or fewer chemotherapy treatments and had recovered

from most of the effects of those treatments. They had no significant or uncontrolled diseases and their bone marrow, liver and kidney worked sufficiently. Their solid tumor had not spread to the brain or central nervous system.

During the study, the study doctor did a check-up of the patients at several study visits. At visit 1, patients were checked to see if they could be in the study. Patients who could be in the study were picked for treatment (gilteritinib).

- Visits 1 to 14: Patients took a single dose of gilteritinib tablets (120 mg) once a day.
- Visit 15: Patients took a single dose solution with 120 mg radiolabeled gilteritinib.
- Visits 16 to 47: Patients took a single dose of gilteritinib tablets (120 mg) once a day.

The patients could take study medicine until their cancer got worse, they had unwanted effects they could not tolerate or they asked to stop treatment. If patients took gilteritinib for 28 days in a row and the study doctor thought they could benefit from continuing the study treatment, the patients could take part in a new study.

This study took place at 1 clinic in the US. 6 patients were in the study and took at least 1 dose of study medicine.

	Number of Patients
Age Group	
Aged less than 65 years	4
Aged 65 years or older	2
Sex	
Men	3
Women	3

What Were the Study Results?

The main question this study helped answer was how gilteritinib was taken up, broken down, distributed through the body and removed from the body in patients with advanced solid tumors. Patients were to have received one dose per day but 2 patients took more than 1 dose/day of gilteritinib.

Blood is the main body fluid that is responsible for moving nutrients and oxygen to the organs and tissues. Blood is made of plasma, red blood cells, white blood cells and platelets. The greatest amount of radiolabeled gilteritinib in the blood was seen 3 to 4 hours after the patients received the dose and this was in both blood and/or plasma.

The majority (approximately 77%) of radiolabeled gilteritinib dose was found in the patient's feces and urine within 288 hours (or 12 days) after the dose.

Feces were the primary way radiolabeled gilteritinib was removed from the body. Urine was a minor route for it to be removed from the body.

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 in patients who took at least 1 dose of gilteritinib in this study.

Adverse Reaction	**Gilteritinib (out of 6 patients)**
Any adverse reaction	6 (100%)
Fatigue or tiredness	4 (66.7%)
Increased blood level of a liver enzyme (aspartate aminotransferase)	4 (66.7%)
Increased blood level of a liver enzyme (alanine aminotransferase)	3 (50.0%)
Increased blood sugar level	3 (50.0%)
Lack of enough red blood cells (anemia)	3 (50.0%)
More protein leaking into the urine than usual, often a sign of kidney disease	3 (50.0%)
Back pain	2 (33.3%)
Constipation	2 (33.3%)
Dizziness (or sensation of lightheadedness, unsteadiness, or giddiness)	2 (33.3%)
Headache or head pain	2 (33.3%)
Increased blood level of a liver enzyme (gamma-glutamyltransferase)	2 (33.3%)
Overdose	2 (33.3%)

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

All 6 patients experienced serious adverse reactions.

One patient died during the study. The patient did not die because of gilteritinib.

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 February 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.

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