Summary of Results for Laypersons

What was the Study Called?

A Phase 2, Randomized, Double-blind, Placebo-controlled, Parallel Group, Adaptive, Combined Proof of Concept and Dose-finding Study to Investigate Efficacy, Safety, Pharmacodynamics and Pharmacokinetics of ASP3652 in the Treatment of Female Patients with Bladder Pain Syndrome/Interstitial Cystitis.

Why was this Study Needed?

Interstitial cystitis (IC) and bladder pain syndrome (BPS) are conditions that cause bladder pain and sometimes pelvic pain associated with symptoms related to passing urine. The pain ranges from mild discomfort to severe. The bladder expands until it is full and then signals the brain that it is time to urinate. With BPS/IC, these signals get mixed up and a person feels the need to urinate more often and with smaller volumes of urine than most people do. There is no cure and existing medicines and other therapies offer only partial relief. Therefore, there was a need to study new treatments for BPS/IC. ASP3652 is an experimental medicine that works by decreasing the breakdown of chemicals that may reduce the sensation of pain.

This study was conducted in patients who had BPS/IC. Patients took ASP3652 or placebo. The section below describes what placebo tablets are. The main question this study helped answer was which study medicine (ASP3652 or placebo) worked better at reducing pain in patients with BPS/IC. It was also important to find out what unwanted effects the patients had from the study medicines.

The study started in May 2012 and ended in March 2014. When this study ended, the sponsor (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 (ASP3652 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 aged 18 years or older could be in the study if:

- They were Caucasian (white).
- Their doctor had diagnosed them with BPS/IC.

- They had moderate pain.

Patients could not take part in this study if:

- They had a cystoscopy with hyperdistention within 6 months before the start of the study (a procedure that allows the doctor to view the inside of the bladder using a small camera and the bladder is filled with water to stretch it out). Or Botox injections in the bladder within 6 months before the start of the study.
- They received pentosan polysulphate sodium treatments 4 weeks before the start of the study.
- They received treatments within the bladder or other nondrug treatments for BPS/IC within 3 months before the start of the study.
- They were diagnosed or had symptoms of bacterial cystitis within 3 months before the start of the study.
- They were experiencing symptoms due to urethral diverticulum (a pocket or pouch that forms along the urethra).
- They had a history of cancer of the lower urinary tract, a neurologic disease that affected bladder function, or other genital conditions that could affect the study.

During the study, the study 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. Patients who could be in the study were picked for a treatment (ASP3652 or placebo) by chance alone.

- Placebo: Patients took placebo tablets twice daily.
- 50 mg ASP3652: Patients took ASP3652 tablets (50 mg) twice daily.
- 150 mg ASP3652: Patients took ASP3652 tablets (150 mg) twice daily.
- 300 mg ASP3652: Patients took ASP3652 tablets (300 mg) twice daily.

The patients took the study medicine for 12 weeks but could stop taking it earlier if their BPS/IC got worse, they had unwanted effects they could not tolerate or they asked to stop treatment.

This study took place at 60 clinics in the several European countries. 286 patients were in the study and took at least 1 dose of the study medications.

	Number of Patients
Age Group	
Aged younger than 65 years	221
Aged older than 65 years	65
Sex	
Women	286
Clinic Location	
European Union Countries (*at the time of the study*)	238
Belgium	15
Czech Republic	45
Denmark	7
Germany	19
The Netherlands	9
Latvia	24
Lithuania	12
Poland	41
Portugal	9
Romania	47
Spain	10
Outside European Union	48
Russian Federation	48

What Were the Study Results?

The main question this study helped answer was which study medicine (ASP3652 or placebo) worked better at reducing pain in patients with BPS/IC.

The mean (or average) change in pain intensity for patients who took placebo and ASP3652 is provided below. All treatments, including the placebo, showed a reduction in pain intensity, but the reduction was about the same for all treatments. Overall, the results did not show that the ASP3652 treatment was better than the placebo.

Study Medicine	Mean (Average) Change in Pain Intensity
Placebo	-1.63
50 mg ASP3652	-1.39
150mg ASP3652	-1.42
300 mg ASP3652	-1.73

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 2% or more of the patients who took at least 1 dose of study medicine in the study. This means that those adverse reactions

were experienced by at least 2 out of 82 patients who took placebo, by at least 1 out of 53 patients who took 50 mg ASP3652, by at least 1 out of 55 patients who took 150 mg ASP3652, or by at least 2 out of 96 patients who took 300 mg ASP3652.

Adverse Reaction	Placebo (out of 82 Patients)	50 mg ASP3652 (out of 53 Patients)	150 mg ASP3652 (out of 55 Patients)	300 mg ASP3652 (out of 96 Patients)
Any adverse reaction	7 (8.5%)	8 (15.1%)	9 (16.4%)	14 (14.6%)
Headache or head pain	2 (2.4%)	1 (1.9%)	1 (1.8%)	3 (3.1%)
Constipation	1 (1.2%)	1 (1.9%)	0	2 (2.1%)
Difficulty sleeping or falling asleep	1 (1.2%)	0	0	2 (2.1%)
Nausea or the urge to vomit	1 (1.2%)	0	3 (5.5%)	1 (1.0%)
Dry mouth	0	1 (1.9%)	1 (1.8%)	2 (2.1%)
Heartburn	0	1 (1.9%)	0	2 (2.1%)
Swelling or feeling of fullness and tightness in the abdomen (belly)	0	0	2 (3.6%)	0

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

2 patients experienced serious adverse reactions. 1 patient, who took 50 mg ASP3652, experienced the serious adverse reaction of irregular heart beat. The other patient, who took 150 mg ASP3652, experienced the serious adverse reaction of increased blood level of a liver enzyme.

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 2014. 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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