Summary of Results for Laypersons

What was the Study Called?

A Randomized Placebo-controlled Study of OSI-774 (Tarceva™) in Patients with Incurable Stage IIIB/IV Non-small Cell Lung Cancer Who have Failed Standard Therapy for Advanced or Metastatic Disease.

Why was this Study Needed?

Erlotinib (also known as OSI-774 and Tarceva®) is a medicine that blocks a molecule called the epidermal growth factor receptor (EGFR) which is found on the surface of certain cancer cells. This molecule helps cancer cells grow. EGFR is present on non-small cell lung cancer (NSCLC) cells. Since erlotinib is a medicine that blocks EGFR it could be effective in preventing the growth of NSCLC.

This study helped determine if erlotinib was better than placebo to treat patients with incurable late stage (Stage IIIB/IV) NSCLC. The patients had failed 1 or more rounds of chemotherapy or radiation therapy. The main question this study answered was if patients with incurable late stage NSCLC lived longer if they took erlotinib compared to if they took a placebo. Also, it was important to find out what unwanted effects might occur.

This study for erlotinib took place at 86 clinics in 17 countries across North and South America, Europe, Asia, South Africa, New Zealand and Australia between November 2001 and April 2004. When the 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 "blinded" study. In this study, the patients and the researchers did not know who took which of the treatments (erlotinib 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. In this study the patients received 1 of 2 treatments:

- Erlotinib 150 mg once daily until their NSCLC got worse or they had unacceptable toxicity
- Placebo once daily until their NSCLC got worse or they had unacceptable toxicity

Patients were picked for each treatment by chance alone. Two patients were entered into the erlotinib group for every 1 patient entered into the placebo group.

Both men and women took part in the study. They were all over 18 years old. They had confirmed incurable Stage IIIB/IV NSCLC and had failed previous chemotherapy. A requirement was that the patients had normal kidney and liver function. These patients were very sick and their cancer was getting worse. Patients could not take part in this study if any of the following was true:

- They had a history of breast cancer or a skin cancer called melanoma, or another cancer in the last 5 years.
- They had serious heart disease or a gastrointestinal disease.
- They had a serious infection or medical condition.
- Their cancer had spread to their central nervous system (brain and spinal cord) and they had symptoms.

The study lasted until the patients left the study or died, including:

- Routinely patients were examined to see if their NSCLC cancer was getting better.
- Every 8 weeks patients were examined to measure tumor size.
- Every 4 weeks patients were examined to see if it was safe for them to continue with the study.
- Every 12 weeks the clinics noted if the patients were still alive.
- Patients were examined 4 weeks after they stopped taking study medicine.

Patients were instructed to take their test medicine at the same time every day. Patients started taking the study medicine 2 working days after they were entered into the study. The study medicine was reduced if the patient experienced toxicity.

A total of 731 patients in 86 clinics in 17 countries were entered into the study. A total of 488 patients received erlotinib and 243 patients received placebo.

	Number of Patients (out of 731 patients)
Age Group Aged 18 years and older	731
Women Men	256 475
EU Countries Outside EU	131 600

What Were the Study Results?

Patients with incurable NSCLC who took erlotinib lived longer than patients who took placebo. Erlotinib was better than placebo at stopping the growth of NSCLC tumors. Erlotinib was well tolerated by most patients.

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 chart below shows the most common adverse reactions experienced by patients while taking part in this study. Information from 727 patients who received at least 1 dose of study medicine is included in the table below.

Adverse Reactions	Number of Placebo Patients (out of 242 patients)	Number of Erlotinib Patients (out of 485 patients)
Rash	36	354
Diarrhea	33	225
Nausea or the urge to vomit	28	104
Loss of appetite	31	90
Feeling tired	18	78
Swelling of the mouth and lips	5	68
Vomiting	18	66
Itchy skin	10	55
Dry skin	8	54
Infection of the eye commonly called pink eye	4	51
Chronic dry eye	8	49
Headache	7	25

An adverse reaction is considered "serious" when it is life-threatening, causes lasting problems or needs hospital care. A total of 41 patients in the erlotinib group had a serious adverse reaction and 7 patients in the placebo group had a serious adverse reaction. A total of 155 patients in the erlotinib group and 71 patients in the placebo group died while taking the study medicine or within 30 days of stopping the study medicine. Twice as many patients were in the erlotinib group compared to the placebo group. So, about 32% of patients in the erlotinib group died and about 29% of patients in the placebo group died while taking study medicine or within 30 days of stopping the study medicine. The patients in the erlotinib group lived longer than the patients in the placebo group.

Where Can I Learn More About This Study?

Astellas may perform additional studies to better understand erlotinib.

This summary of the clinical study results is available 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. If you have questions about erlotinib, please discuss these with your doctor.

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