Summary of Results for Laypersons

What was the Study Called?

A Phase II, Open-label, Intrapatient Dose-escalation Study of Erlotinib in Patients with Advanced Non-small Cell Lung Cancer Who have Failed Prior Chemotherapy

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 solid cancer tumor cells. Since erlotinib is a medicine that blocks EGFR it could be effective in preventing the growth of solid cancer tumor cells.

Erlotinib treatment has been evaluated in a number of studies. In those studies some patients' cancer got better when they developed a rash. Using statistics it was shown that the rash occurred more frequently with the patient living longer. This led researchers to believe that the rash could help them find the best dose of erlotinib for each patient. This study enrolled patients with non-small cell lung cancer (NSCLC) whose cancer had not responded to chemotherapy. Chemotherapy is a type of cancer treatment that uses medicines to destroy cancer cells.

The main question this study helped answer was if it was possible to use rash to indicate the best dose of erlotinib for each patient. Once the patient had a rash, the effect of erlotinib to treat the patient's NSCLC was assessed.

This study for erlotinib took place at 2 clinics. One clinic was in the US and 1 was in the Netherlands. The study started in November 2003. When the report was written 2 patients were still on erlotinib treatment. The sponsor (Astellas) reviewed all the study information and created a report of the results. The report includes study information from November 2003 to March 2007. This is a summary of that report.

What Kind of Study was This and Who Took Part in it?

This type of study is called a dose-escalation study. This is because the dose of the study medicine is increased until a specific thing happens. In this study, the dose of erlotinib was increased for each patient until they got a rash. Once the patient got a rash, the effect of erlotinib to treat the patient's cancer was determined.

The patients were given the following treatment:

- A starting dose of 150 mg erlotinib taken orally daily.
- After 3 weeks, and if the patient was able to handle the rash, erlotinib was increased to 200 mg orally daily.
- Further dose increases of 25 mg at a time could happen in 2-week periods if the patient was able to handle the rash and if the patient did not have other toxicities.

Every 6 to 8 weeks the patient's cancer was checked to see if it was responding to treatment or getting worse.

Men and women were allowed to volunteer for this study. They were all over 18 years old. They all had stage IIIB or IV NSCLC and had been treated with at least 1 round of chemotherapy. All patients had advanced lung cancer. Patients were expected to live for at least 12 weeks and had adequate blood, liver and kidney function.

The plan was that 50 patients would be enrolled in this study but only 42 patients were enrolled.

	Number of Patients (out of 42 patients)
Age Group Aged 18 years and older	 42
Women Men	14 28
EU Countries Outside EU	13 29

What Were the Study Results?

Some things happened during the study that made it difficult to answer the study question. The dose escalation did not happen as expected, because the patient's cancer quickly got worse and not all the patients could tolerate the rash. Therefore, this study was not able to answer the question of whether increasing the dose of erlotinib until a rash develops was a better way to treat NSCLC.

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. All 42 patients enrolled in the study received at least 1 dose of study medicine.

Adverse Reactions	150 mg Erlotinib (out of 4 patients)	200 mg Erlotinib (out of 13 patients)	225-275 mg Erlotinib (out of 18 patients)	More than 300 mg Erlotinib (Out of 7 patients)	Total (out of 42 patients)
Rash	4	13	17	7	41
Diarrhea	4	9	13	7	33
Nausea or urge to vomit	3	5	9	5	22
Fatigue or tiredness	3	4	6	4	17
Vomiting	2	5	5	3	15
Swelling of the mouth and lips	2	5	6	1	14
Loss of appetite	2	0	6	3	11
Hair loss	0	0	4	2	6
Cracks in the skin	1	0	2	2	5
Infection of the soft tissue around a finger nail	0	0	3	2	5
Nose bleed	0	0	3	2	5

An adverse reaction is considered “serious” when it is life-threatening, causes lasting problems, or needs hospital care. Four patients experienced serious adverse reactions: 1 patient in the 200 mg erlotinib group and 3 patients in the 225-275 mg erlotinib group.

Eight patients died during the study or within 30 days of their last treatment. All of the patients died because of their cancer.

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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