VI.2 Elements for a public summary

VI.2.1 Overview of disease epidemiology

Erlotinib is used to treat certain types of cancer such as locally advanced or metastatic (where cancer has spread) Non-small Cell Lung Cancer (NSCLC) and pancreatic cancer.

Lung cancer is the most common cancer in the world, with over a million new cases a year, and is the leading cause of cancer-related mortality worldwide. NSCLC represents about 85% of all lung cancers.

Patients are usually diagnosed with locally advanced or metastatic disease, which is incurable with the treatment options currently available. The majority of cases are diagnosed in patients older than 65 years and approximately 71% of new cases of lung cancer occur in men. Despite recent advances in treatment, the prognosis for patients with lung cancer remains poor; the 5-year survival rate for patients with NSCLC is approximately 15%.

Several risk factors contribute to the development of lung cancer and include cigarette, pipe, or cigar smoking, exposure to second-hand smoke, radon, arsenic, asbestos, and air pollution, and radiation therapy to the breast or chest.

Pancreatic cancer is the fourth-leading cause of cancer deaths in both men and women. Pancreatic cancer has the lowest survival rates of any cancer. Pancreatic cancer is more common in men than women, and is predominantly a disease of elderly people. Only about 10% of patients develop this tumor below the age of 50 years. There are two main types of pancreatic cancer exocrine pancreatic cancer and endocrine pancreatic cancer.

Risk factors that are associated with pancreatic cancer include smoking, diabetes, family history of pancreatic cancer, inflammation of pancreas and obesity.

VI.2.2 Summary of treatment benefits

Based on the available data from clinical studies and clinical experience of several years, erlotinib represents an effective drug in the treatment of non-small cell lung cancer and pancreatic cancer. If administered as indicated in the Summary of Product Characteristics and taking into account the contraindications, the warnings and precautions, erlotinib can be considered effective in the approved indications.

VI.2.3 Unknowns relating to treatment benefits

The effectiveness of cancer treatment in children is not known.

VI.2.4 Summary of safety concerns

Important identified risks

Risk	What is known	Preventability
Skin toxicity (Cutaneous toxicity)	Skin toxicity most commonly manifests as mild rash. Rash may develop vey commonly in patients treated with erlotinib (very commonly: may affect more than 1 in 10 people).	Skin toxicity is usually mild and treated with simple topical treatments (topical moisturizers). It might be necessary to change the dose of erlotinib.

Risk	What is known	Preventability
Lung diseases affecting tissue and space around the air sacs of the lungs (Interstitial lung disease)	Rare form of lung condition called interstitial lung disease, including cases leading to death, have been reported uncommonly in patients receiving erlotinib for treatment of non-small cell lung cancer (NSCLC), pancreatic cancer or other advanced solid tumours (common: may affect more than 1 in 100 people).	If interstitial lung disease is diagnosed, treatment with erlotinib should be stopped and appropriate treatment should be started as necessary.
Liver injury	Rare cases of hepatic failure (including cases leading to death) have been reported during use of erlotinib in post- marketing settings (rare: may affect up to 1 in 1 000 people).	Periodic blood tests to observe changes in liver function should be considered. Dose reduction or interruption of erlotinib dosing should be considered if changes in liver function are severe.
Fluid loss due to vomiting and diarrhoea (GI fluid loss)	Diarrhea and vomiting may occur very commonly in patients treated with erlotinib (very common: may affect more than 1 out of 10 people). Persistent and severe diarrhea may lead to low blood potassium and impairment of kidney function, particularly if other chemotherapy treatments are administered at the same time.	When persistent diarrhea, nausea, anorexia, or vomiting occurs, erlotinib treatment should be interrupted and appropriate management steps should be taken to prevent dehydration. Management steps would include decrease in erlotinib dose and anti-motility medication such as loperamide. In addition, renal function and serum electrolytes including potassium should be monitored in patients at risk of dehydration.
Hole in intestine (GI perforation)	Patients receiving erlotinib are at increased risk of developing gastrointestinal perforation, which was observed uncommonly (including some cases leading to death) (uncommon: may affect up to 1 in 100 people). Patients who have prior history of peptic ulcer or diverticular disease are at increased risk.	Patients are advised to contact treating physician in case of severe abdominal pain. Erlotinib should be permanently discontinued in patients who develop gastrointestinal perforation. Such patients are treated with intravenous infusions, antibiotics, nasogastric aspiration and bowel rest.
Eye problems (Ocular toxicity)	A wide range of eye problems has been observed. These ranged from mild (e.g. conjunctivitis or pink eye) to significant in	Patients who present with acute or worsening redness and pain in the eye, increased eye

Risk	What is known	Preventability
	severity (e.g., corneal ulceration- ulcers involving the front part of the eye) or corneal perforation (damage of front part of the eye). Eye irritation due to conjunctivitis/keratoconjunctivitis may develop very commonly and keratitis may develop commonly in patients treated with erlotinib (very common: may affect more than 1 out of 10 people; common: may affect up to 1 in 10 people).	watering, blurred vision and/or sensitivity to light, should contact their doctor or nurse immediately as they may need urgent treatment.
Drug interactions and interaction with smoking	Some drugs (for example antifungals like ketoconazole, protease inhibitors, erythromycin, clarithromycin, phenytoin, carbamazepine, barbiturates, rifampicin, ciprofloxacin, or St. John's Wort), if taken together with erlotinib, may decrease or increase the amount of erlotinib in blood. As a result, the efficacy of erlotinib may be reduced or the side effects of erlotinib may increase. Some products which change the acidity of the upper digestive tract (for example antacids, omeprazole, or ranitidine), if taken together with erlotinib, may decrease the amount of erlotinib in blood. Smoking results in a decrease in the amount of erlotinib in blood.	Patients receiving medication for other health problems may have to change medication or dose (the concentration of the drug) in order to receive erlotinib as well. If the use of antacids omeprazole or ranitidine is considered necessary during treatment with erlotinib, they should be taken at least 4 hours before or 2 hours after the daily dose of erlotinib. Patients who smoke should try to stop smoking as early as possible before starting treatment with erlotinib.

Important potential risks

None

Missing information

Risk	What is known
Pregnancy/Lactation	Women who can become pregnant must be advised to avoid pregnancy while on erlotinib. It is not known whether erlotinib is excreted in human breast milk. Because of the potential harm to the infant, it is not recommended to breastfeed while receiving erlotinib.

Risk	What is known
Safety in children (Paediatric population)	Erlotinib has not been studied in patients under the age of 18 years. Treatment with erlotinib is not recommended for children and adolescents.
Safety in patients with liver problems (Severe hepatic impairment)	It is not known whether erlotinib has a different effect in patients whose liver is not functioning normally. Treatment with erlotinib is not recommended for patients with severe liver disease.

VI.2.5 Summary of risk minimisation measures by safety concern

All medicines have a Summary of Product Characteristics (SmPC) which provides physicians, pharmacists and other health care professionals with details on how to use the medicine, the risks and recommendations for minimising them. An abbreviated version of this in lay language is provided in the form of the Patient Information Leaflet (PIL). The measures in these documents are known as routine risk minimisation measures.

In addition, this medicine has special conditions and restrictions for its safe and effective use (additional risk minimisation measures). How they are implemented in each country will depend upon agreement between the manufacturer and the national authorities.

These additional risk minimisation measures are for the following risks:

Lung diseases affecting tissue and space around the air sacs of the lungs (Interstitial lung disease)

Risk minimisation measure(s)
Objective and rationale: The purpose of this material is to enable prescribers to anticipate and manage interstitial lung disease-like events and not to technically prevent this risk from occurring.
Summary description of main additional risk minimisation measures: Dosing guideline with information on management of ILD-like events.
Proposed action: Specialized educational material for healthcare professionals will be prepared to anticipate and manage erlotinib-induced interstitial lung disease.

VI.2.6 Planned post-authorisation development plan

Not applicable.

VI.2.7 Summary of changes to the risk management plan over time

Not applicable.