

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Single Technology Appraisal

Gefitinib for the first-line treatment of locally advanced or metastatic non-small cell lung cancer

Final scope

Remit/appraisal objective *

To appraise the clinical and cost effectiveness of gefitinib, within its licensed indication, for the first-line treatment of locally advanced or metastatic non-small cell lung cancer.

Background

Lung cancer falls into two main histological categories: around 80% are non-small-cell lung cancers (NSCLC) and the remainder are small-cell lung cancers. The main types of NSCLC are squamous cell carcinoma (45%), adenocarcinoma (45%) and large cell carcinoma (10%). Between 5% and 15% of cases of NSCLC are diagnosed on routine chest radiographic examination, but the majority of cases present with symptoms and signs related either to the site of the growth of the primary tumour, or to the effects of thoracic or metastatic spread. Approximately a third of patients with NSCLC present with local potentially resectable disease and about 50% of these will be suitable for surgery. About 30% of patients present with locally and regionally advanced disease (Stage IIIb) and 40% with advanced disease (Stage IV in which there are distant metastases).

Estimates of the number of patients who receive first line chemotherapy for inoperable NSCLC vary between 1,320 and 6,447 per year. Lung cancer incidence and mortality rates are strongly associated with smoking and socio-economic deprivation. There were 31,900 new diagnoses of lung cancer in England and Wales in 2003 (an incidence of around 60 cases per 100,000 population) and 28,632 deaths in 2005. The prognosis for patients with NSCLC is poor, with an overall median survival of 6 months from diagnosis and 1 year survival of only around 20%.

While one-third of patients with NSCLC have disease which is suitable for potentially curative surgical resection, for the majority of NSCLC patients, cure is not possible and the aims of therapy are to prolong survival and improve quality of life. Treatment may include radiotherapy and supportive care with or without chemotherapy. NICE has published a clinical guideline on the diagnosis and treatment of lung cancer (CG24). It recommends that

* The original remit from the Department of Health was 'To appraise the clinical and cost effectiveness of gefitinib [Iressa] in its licensed indications for non-small cell lung cancer [NSCLC]'. This appraisal was split into two Single Technology Appraisals (first and second line treatment of NSCLC respectively) following the positive opinion from the Committee for Medicinal Products for Human Use (CHMP).

chemotherapy should be offered to patients with stage III or IV NSCLC and a good performance status. First line chemotherapy for advanced NSCLC should include a combination of a single third-generation drug (gemcitabine, docetaxel, paclitaxel or vinorelbine) with a platinum drug (carboplatin or cisplatin). Bevacizumab within its licensed indication for the treatment of unresectable advanced, metastatic or recurrent non-small-cell lung cancer was referred to NICE for appraisal, but no evidence submission was received from the manufacturer. Therefore NICE was unable to recommend the use of this technology to the NHS.

The technology

Gefitinib (Iressa, AstraZeneca) is administered orally and inhibits the intracellular phosphorylation of numerous tyrosine kinases associated with transmembrane cell surface receptors, including the tyrosine kinases associated with the epidermal growth factor receptor (EGFR-TK). EGFR is expressed on the cell surface of many normal cells and cancer cells.

Gefitinib has a UK marketing authorisation for the treatment of adult patients with locally advanced or metastatic NSCLC with activating mutations of EGFR-TK.

Intervention(s)	Gefitinib
Population(s)	People with previously untreated EGFR-TK mutation positive locally advanced or metastatic NSCLC
Comparators	<ul style="list-style-type: none"> • Platinum based chemotherapy (carboplatin or cisplatin) in combination with gemcitabine, docetaxel, paclitaxel or vinorelbine • Pemetrexed in combination with platinum based chemotherapy (carboplatin or cisplatin) • Best supportive care
Outcomes	<p>The outcome measures to be considered include:</p> <ul style="list-style-type: none"> • overall survival • progression-free survival • response rates • health-related quality of life • adverse effects of treatment.

Economic analysis	<p>The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year.</p> <p>The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared.</p> <p>Costs will be considered from an NHS and Personal Social Services perspective.</p> <p>Costs to the NHS associated with the testing for EGFR-TK mutations should be included in the economic analysis.</p>
Other considerations	<p>If evidence allows the following subgroups will be considered: performance status, histology, gender, and previous smoking history.</p> <p>Guidance will only be issued in accordance with the marketing authorisation.</p>
Related NICE recommendations	<p>Related Technology Appraisals:</p> <p>Technology Appraisal No.148. June 2008, 'Bevacizumab for the treatment of non-small-cell lung cancer' (terminated appraisal).</p> <p>Technology Appraisal in development, 'Cetuximab for the treatment of advanced non-small cell lung cancer'. Earliest anticipated date of publication to be confirmed.</p> <p>Technology Appraisal in development, 'Pemetrexed for the first-line treatment of locally advanced or metastatic non-small cell lung cancer'. Earliest anticipated date of publication August 2009.</p> <p>Related Guidelines:</p> <p>Clinical Guideline No.24. February 2005, The diagnosis and treatment of lung cancer. Expected review date February 2009.</p>