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NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Appraisal

Osimertinib for adjuvant treatment of EGFR mutation-positive non-small-cell lung cancer after complete tumour resection

Final scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of osimertinib within its marketing authorisation for adjuvant treatment of non-small-cell lung cancer.

Background

Lung cancer is the third most common cancer and the most common cause of cancer death in the UK, accounting for 13% of all new cancer cases and 21% of all cancer deaths in 2017.¹ There are around 48,000 new lung cancer cases and 35,000 deaths from lung cancer in the UK every year. Up to 85% of lung cancers are non-small-cell lung cancers (NSCLC).²

The majority of lung cancers are diagnosed at an advanced stage, when the cancer has spread to lymph nodes and other organs in the chest (locally advanced disease; stage III) or to other parts of the body (metastatic disease; stage IV), and usually cannot be surgically removed. Around 18% of people with NSCLC had surgical resection with curative intent in England and Wales in 2017,³ although surgery is estimated to be a suitable treatment option for up to 30% of people.⁴ In addition to surgery, these patients may also have radiotherapy and chemotherapy, or combined chemoradiotherapy, depending on the cancer stage and the general health and preferences of the person with cancer.⁵ Patients are actively monitored for cancer recurrence but the frequency and duration of the follow up may vary between centers (usually around 5 years after surgery). If the cancer comes back, treatment options and prognosis depend on the site of the recurrence. Despite the curative intent of treatment for early-stage lung cancer, survival is poor, with only about 57% people with stage I, 34% with stage II and 13% with stage III surviving for 5 years after diagnosis.⁶

An estimated 10% to 15% of people with NSCLC have mutations to the protein epidermal growth factor receptor (EGFR).^{7,8} EGFR inhibition may induce cell death and inhibit tumour growth in EGFR-mutated tumour cells. There are currently no EGFR-targeted therapies for resectable NSCLC available in the NHS in England.

The technology

Osimertinib (Tagrisso, AstraZeneca) is a selective, small molecule tyrosine kinase inhibitor that targets the sensitising (exon 19 deletions and exon 21 L858R point mutations) and T790M mutant forms of the EGFR-TK, while having minimal activity against wild-type EGFR. Osimertinib is administered orally.

Osimertinib does not have a marketing authorisation in the UK for the adjuvant treatment of NSCLC. It is being studied in a phase III trial for the adjuvant treatment

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stage Ib-IIIa EGFR mutation-positive NSCLC after complete tumour resection. An adjuvant treatment is an additional cancer treatment given after an initial treatment, to lower the risk of the cancer returning and improve long-term outcomes.

Intervention(s)	Osimertinib (as an adjuvant treatment)
Population(s)	People with EGFR mutation-positive NSCLC after complete tumour resection (with or without adjuvant chemotherapy)
Comparators	Established clinical management without osimertinib (that is, active monitoring)
Outcomes	<p>The outcome measures to be considered include:</p> <ul style="list-style-type: none"> • overall survival • disease-free survival • sites and rates of recurrence • time to treatment discontinuation • adverse effects of treatment • health-related quality of life.
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>The availability of any commercial arrangements for the intervention, comparator and subsequent treatment technologies will be taken into account.</p> <p>The use of osimertinib is conditional on the presence of an EGFR mutation. The economic modelling should include the costs associated with diagnostic testing for EGFR in people with resectable, early-stage NSCLC who would not otherwise have been tested. A sensitivity analysis should be provided without the cost of the diagnostic test. <u>See section 5.9 of the Guide to the Methods of Technology Appraisals.</u></p>
Other considerations	<p>If the evidence allows, subgroups based on NSCLC stage (Ib versus II-IIIa) may be considered.</p> <p>Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations,</p>

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	<p>guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.</p>
<p>Related NICE recommendations and NICE Pathways</p>	<p>Related Technology Appraisals:</p> <p>Osimertinib for treating locally advanced or metastatic EGFR T790M mutation-positive non-small-cell lung cancer (2020) Technology appraisal guidance 653.</p> <p>Osimertinib for untreated EGFR mutation-positive non-small-cell lung cancer (2020) Technology appraisal guidance 654.</p> <p>Related Guidelines:</p> <p>Lung cancer: diagnosis and management (2019) NICE guideline 122</p> <p>Related Quality Standards:</p> <p>Lung cancer in adults (2012; updated 2019) Quality standard 17</p> <p>Related NICE Pathways:</p> <p>Treating non-small-cell lung cancer (2020) NICE pathway</p>
<p>Related National Policy</p>	<p>National Service Frameworks:</p> <p>Cancer</p> <p>Department of Health:</p> <p>Department of Health, NHS Outcomes Framework 2016-2017</p> <p>Department of Health (2014) The national cancer strategy: 4th annual report</p> <p>Department of Health (2011) Improving outcomes: a strategy for cancer</p> <p>Department of Health (2009) Cancer commissioning guidance</p> <p>Department of Health (2007) Cancer reform strategy</p> <p>NHS England (2018/2019) NHS manual for prescribed specialist services (2018/2019) Chapter 105: Specialist cancer services (adults)</p> <p>Department of Health and Social Care, NHS Outcomes Framework 2016-2017 (published 2016): Domains 1, 2, 4, 5. https://www.gov.uk/government/publications/nhs-outcomes-framework-2016-to-2017</p> <p>Other policies</p> <p>Independent Cancer Taskforce (2015) Achieving world-class cancer outcomes: a strategy for England 2015-2020</p>

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References

1. [Lung cancer incidence](#). Cancer Research UK. Accessed September 2020.
2. [Types of lung cancer](#). Cancer Research UK. Accessed September 2020.
3. [NLCA annual report 2018](#). Accessed September 2020.
4. Lang-Lazdunski L. (2013) Surgery for nonsmall cell lung cancer. 22: 382-404.
5. [Lung cancer: diagnosis and management](#). (2019) NICE guideline 122.
6. [Cancer survival in England - adults diagnosed](#). Office for National Statistics. 2013-2017 dataset.
7. [National Lung Cancer Audit: Spotlight report on molecular testing in advanced lung cancer](#). (2020) Royal College of Physicians.
8. [Osimertinib](#) (2020) Specialist Pharmacy Service