NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Proposed Health Technology Appraisal

Paclitaxel formulated as albumin-bound nanoparticles in combination with carboplatin for untreated non-small-cell lung cancer

Draft scope (pre-referral)

Draft remit/appraisal objective

To appraise the clinical and cost effectiveness of paclitaxel formulated as albumin-bound nanoparticles in combination with carboplatin within its marketing authorisation for untreated non-small-cell lung cancer.

Background

Lung cancer falls into 2 main histological categories: around 85-90% are non-small-cell lung cancers (NSCLC) and the remainder are small-cell lung cancers. NSCLC can be further classified into 3 histological sub-types of large-cell undifferentiated carcinoma, squamous-cell carcinoma and adenocarcinoma. Most 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). In 2013, approximately 28,500 people were diagnosed with NSCLC in England and Wales, of whom 13% had stage IIIA, 10% had stage IIIB and 46% had stage IV disease.[1]

Lung cancer caused approximately 28,300 deaths in England in 2012.[2] The median survival of people with lung cancer (all stages) is approximately 6 months; 35% of people with lung cancer survive for more than 1 year after diagnosis.[1]

For the majority of people with NSCLC, the aims of treatment are to prolong survival and improve quality of life. For many people with stage IIIB or IV disease, the cancer has spread too far for surgery or radiotherapy to be effective so chemotherapy is recommended. For people with untreated stage III or IV NSCLC and good performance status, NICE clinical guideline 121 recommends chemotherapy with a platinum drug (carboplatin or cisplatin) in combination with a third-generation drug (docetaxel, gemcitabine, paclitaxel or vinorelbine). People who are unable to tolerate a platinum combination may be offered single-agent chemotherapy with a third-generation drug. Pemetrexed in combination with cisplatin is recommended as an option if the tumour is an adenocarcinoma or large-cell carcinoma (NICE technology appraisal guidance 181). For people who test positive for the epidermal growth factor receptor tyrosine kinase (EGFR-TK) mutation, and who have not previously received treatment, erlotinib or gefitinib are recommended as treatment options (NICE technology appraisal guidance 258 and 192 respectively). For people who test positive for the EGFR-TK mutation, and

who have not previously received an EGFR-TK inhibitor, afatinib is recommended as an option (NICE technology appraisal guidance 310).

The technology

Paclitaxel formulated as albumin-bound nanoparticles (Abraxane, Celgene) is a form of paclitaxel that inhibits cancer growth by blocking cell division and promoting cell death. This formulation (which is also known as nab-paclitaxel) contains albumin to help transport paclitaxel through the walls of the blood vessels and increase the amount of paclitaxel in the area of the tumour. It is administered as an intravenous infusion.

Paclitaxel formulated as albumin-bound nanoparticles, in combination with carboplatin, has a marketing authorisation in the UK for the first-line treatment of non-small-cell lung cancer in adult patients who are not candidates for potentially curative surgery and/or radiation therapy.

Intervention(s)	Paclitaxel formulated as albumin-bound nanoparticles in combination with carboplatin
Population(s)	Adults with untreated non-small-cell lung cancer for whom potentially curative surgery and/or radiation therapy is unsuitable
Comparators	Paclitaxel (standard formulation), docetaxel, gemcitabine or vinorelbine in combination with platinum-based chemotherapy (carboplatin or cisplatin) For people for whom the histology of the tumour has been confirmed as adenocarcinoma or large-cell carcinoma: • pemetrexed in combination with cisplatin
Outcomes	The outcome measures to be considered include: • overall survival • progression-free survival • response rates • adverse effects of treatment • health-related quality of life.

Economic analysis	The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. 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. Costs will be considered from an NHS and Personal Social Services perspective.
Other considerations	Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.
Related NICE recommendations and NICE Pathways	Related Technology Appraisals: Afatinib for treating epidermal growth factor receptor mutation-positive locally advanced or metastatic non-small-cell lung cancer (2014). NICE technology appraisal guidance 310. Review date April 2017. Erlotinib for the first-line treatment of locally advanced or metastatic EGFR-TK mutation-positive non-small-cell lung cancer (2012). NICE technology appraisal guidance 258. Moved to static list in December 2014. Gefitinib for the first-line treatment of non-small-cell lung cancer (2010). NICE technology appraisal guidance 192. Moved to static list in December 2014. Pemetrexed for the first-line treatment of non-small-cell lung cancer (2009). NICE technology appraisal guidance 181. Moved to static list in December 2014. Terminated appraisal: Bevacizumab for the treatment of non-small-cell lung cancer (2008). NICE technology appraisal 148. Appraisal in development: Proposed appraisal: liposomal cisplatin in combination with chemotherapy for treating inoperable advanced non-small-cell lung cancer. ID 657. Publication date to be confirmed. Related Guideline: Lung cancer: The diagnosis and treatment of lung cancer (2011). NICE clinical guideline 121. Review date

	June 2015. Related Diagnostics Guidance: EGFR−TK mutation testing in adults with locally advanced or metastatic non-small-cell lung cancer (2013). NICE diagnostics guidance 9. Related Quality Standard: Lung cancer (2012). NICE quality standard 17. Related NICE Pathway: Lung cancer. Pathway created Mar 2012: http://pathways.nice.org.uk/pathways/lung-cancer
Related National Policy	NHS England, Manual for prescribed specialised services (Chapter 105): specialist cancer services (adults), Jan 2014. http://www.england.nhs.uk/wp-content/uploads/2014/01/pss-manual.pdf Department of Health, NHS Outcomes Framework 2014-2015, Nov 2013. Domains 1,2,4 and 5. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/256456/NHS_outcomes.pdf Department of Health, Improving Outcomes: A strategy for cancer, third annual report, Dec 2013. https://www.gov.uk/government/publications/the-national-cancer-strategy-3rd-annual-report--2 Department of Health, Cancer commissioning guidance, Dec 2009. http://webarchive.nationalarchives.gov.uk/20130107105354/http:/www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_110115

Questions for consultation

Have all relevant comparators for paclitaxel formulated as albumin-bound nanoparticles been included in the scope?

- Which treatments are considered to be established clinical practice in the NHS for untreated non-small-cell cancer?
- Should docetaxel be included as a comparator?
- Should best supportive care be included as a comparator? If so, how should best supportive care be defined?

Are there any subgroups of people in whom paclitaxel formulated as albumin-bound nanoparticles is expected to be more clinically effective and cost effective or other groups that should be examined separately?

- Is it necessary to consider subgroups defined by tumour histology?

Where do you consider paclitaxel formulated as albumin-bound nanoparticles will fit into the existing NICE pathway on lung cancer?

NICE is committed to promoting equality of opportunity, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others. Please let us know if you think that the proposed remit and scope may need changing in order to meet these aims. In particular, please tell us if the proposed remit and scope:

- could exclude from full consideration any people protected by the equality legislation who fall within the patient population for which paclitaxel formulated as albumin-bound nanoparticles is licensed;
- could lead to recommendations that have a different impact on people protected by the equality legislation than on the wider population, e.g. by making it more difficult in practice for a specific group to access the technology;
- could have any adverse impact on people with a particular disability or disabilities.

Please tell us what evidence should be obtained to enable the Committee to identify and consider such impacts.

Do you consider paclitaxel formulated as albumin-bound nanoparticles to be innovative in its potential to make a significant and substantial impact on health-related benefits and how it might improve the way that current need is met (is this a 'step-change' in the management of the condition)?

Do you consider that the use of paclitaxel formulated as albumin-bound nanoparticles can result in any potential significant and substantial health-related benefits that are unlikely to be included in the QALY calculation?

Please identify the nature of the data which you understand to be available to enable the Appraisal Committee to take account of these benefits.

NICE intends to appraise this technology through its Single Technology Appraisal (STA) Process. We welcome comments on the appropriateness of appraising this topic through this process. (Information on the Institute's Technology Appraisal processes is available at http://www.nice.org.uk/article/pmg19/chapter/1-Introduction)

References

1. National Lung Cancer Audit: 2013 Patient Cohort. Published 2014.

2. Cancer Research UK (2013) Lung cancer survival and mortality statistics. Accessed March 2015.