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NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Tislelizumab in combination for untreated advanced non-small-cell lung cancer

Draft scope

Draft remit/evaluation objective

To appraise the clinical and cost effectiveness of tislelizumab in combination within its marketing authorisation for untreated advanced non-small-cell lung cancer.

Background

In 2022, lung cancer was the third most common cancer in men and second most common cancer in women in England, accounting for 12% of all new cancer cases. It was the most common cause of cancer death for both (around 20% of all deaths caused by cancer).[1]

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 3) or to other parts of the body (metastatic disease; stage 4). Around 30% of lung cancers are diagnosed at an early stage (stage 1 or 2).[2]

There are 2 main types of lung cancer: 92% are NSCLC and the rest are small-cell lung cancers.[Error! Reference source not found.] NSCLC is divided into squamous and non-squamous cell carcinoma.

In 2022, 38,475 people were diagnosed with NSCLC in England. Of these 7.9% had stage 3B or 3C cancer, and 40.1% stage 4 cancer.[Error! Reference source not found.] Around 15% of people with stage 3 lung cancer will survive for 5 years or more after they're diagnosed. For stage 4 lung cancer this is around 5%.[3] It is estimated that over half of all NSCLCs express the programmed cell death ligand-1 (PD-L1) biomarker.[4] Cancer cells expressing PD-L1 are believed to suppress certain immune responses which results in a weaker anti-tumour response.[4,5]

The treatment pathway for NSCLC can be divided into interconnected decision points based on the number staging system and line of therapy. Treatment choices are influenced by the presence of biological markers (including programmed cell death 1 ligand PD-L1 status), oncogenic driver genetic alterations, histology (squamous or non-squamous) and previous treatment.

For untreated metastatic non-squamous NSCLC people may be offered pembrolizumab with pemetrexed and platinum chemotherapy (TA683) or pemetrexed and platinum chemotherapy irrespective of PD-L1 expression. If the non-squamous NSCLC expressed PD-L1 on over 50% of tumour cells they may be offered pembrolizumab (TA531) or atezolizumab (TA705) monotherapy. If the untreated non-squamous NSCLC has a targetable genetic alteration then people may be offered a specific targeted treatment from those listed in the treatment pathways in NICE's guideline on diagnosing and managing lung cancer.

For untreated squamous NSCLC people may be offered pembrolizumab with carboplatin and paclitaxel (TA770) if the NSCLC expresses PD-L1 on less than 50%

of cells or on over 50% of cells if there is a need for urgent clinical intervention. If the squamous NSCLC expresses PD-L1 on 50% or more of its tumour cells people may be offered pembrolizumab (TA531) or atezolizumab (TA705) monotherapy. If the untreated squamous NSCLC is has a targetable genetic alteration then people may be offered a specific targeted treatment from those listed in the treatment pathways in NICE's guideline on diagnosing and managing lung cancer. People may also be offered chemotherapy.

The technology

Tislelizumab (Tevimbra) in combination with pemetrexed and platinum-containing chemotherapy is indicated for the first-line treatment of adult patients with non-squamous NSCLC whose tumours have PD-L1 expression on ≥50% of tumour cells with no EGFR or ALK positive mutations and who have:

- locally advanced NSCLC and are not candidates for surgical resection or platinum-based chemoradiation, or
- metastatic NSCLC.

Tislelizumab in combination with carboplatin and either paclitaxel or nab-paclitaxel is indicated for the first-line treatment of adult patients with squamous NSCLC who have:

- locally advanced NSCLC and are not candidates for surgical resection or platinum-based chemoradiation, or
- metastatic NSCLC.

Intervention(s)	Tislelizumab • with platinum based chemotherapy and pemetrexed (non-squamous NSCLC) • with carboplatin and either paclitaxel or nab-paclitaxel (squamous NSCLC)

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Population(s)	• People with non-squamous NSCLC whose tumours have PD-L1 expression on ≥50% of tumour cells with no EGFR or ALK positive mutations and who have:
	  ○ locally advanced NSCLC and are not candidates for surgical resection or platinum-based chemoradiation, or
	  ○ metastatic NSCLC.
	• People with squamous NSCLC who have:
	  ○ locally advanced NSCLC and are not candidates for surgical resection or platinum-based chemoradiation, or
	  ○ metastatic NSCLC.

Subgroups	If the evidence allows, the following subgroups will be considered: • Histology • PD-L1 status • Disease stage • Newly diagnosed or recurrent after surgery metastatic disease

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Comparators	For people with non-squamous NSCLC whose tumours express PD-L1 on 50% or more of cells • Pembrolizumab with pemetrexed and platinum chemotherapy • Pembrolizumab monotherapy • Atezolizumab monotherapy • Pemetrexed with platinum doublet chemotherapy • Cemiplimab with platinum-based chemotherapy (subject to NICE appraisal) For people with squamous NSCLC whose tumours express PD-L1 on less than 50% of cells • Platinum doublet chemotherapy • Pembrolizumab with carboplatin and paclitaxel • Cemiplimab with platinum-based chemotherapy (subject to NICE appraisal) For people with squamous NSCLC whose tumours express PD-L1 on 50% or more of cells • Platinum doublet chemotherapy • Pembrolizumab monotherapy • Atezolizumab monotherapy • Pembrolizumab with carboplatin and paclitaxel (for people in need of urgent clinical intervention) • Cemiplimab with platinum-based chemotherapy (subject to NICE appraisal)
Outcomes	The outcome measures to be considered include: • progression free survival • response rates • overall survival • adverse effects of treatment • health-related quality of life.

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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. If the technology is likely to provide similar or greater health benefits at similar or lower cost than technologies recommended in published NICE technology appraisal guidance for the same indication, a cost-comparison may be carried out. 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. The availability of any commercial arrangements for the intervention, comparator and subsequent treatment technologies will be taken into account. The availability of any managed access arrangement for the intervention will be taken into account. The availability and cost of biosimilar and generic products should be taken into account.
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	**Related technology appraisals:** Dabrafenib plus trametinib for treating BRAF V600 mutation-positive advanced non-small-cell lung cancer (2023) NICE technology appraisals guidance 898 Tepotinib for treating advanced non-small-cell lung cancer with MET gene alterations (2022) NICE technology appraisals guidance 789 Pembrolizumab with carboplatin and paclitaxel for untreated metastatic squamous non-small-cell lung cancer (2022) NICE technology appraisals guidance 770. Atezolizumab monotherapy for untreated advanced non-small-cell lung cancer (2021) NICE technology appraisal guidance 705. Pembrolizumab with pemetrexed and platinum-based chemotherapy for untreated non-small-cell lung cancer (2021) NICE technology appraisals guidance 683.

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	Atezolizumab in combination for treating metastatic non-squamous non-small-cell lung cancer (2019) NICE technology appraisal 584. Pembrolizumab for untreated PD-L1-positive metastatic non-small-cell lung cancer (2018) NICE technology appraisal guidance 531. **Related technology appraisals in development:** Cemiplimab with chemotherapy for untreated advanced or metastatic non-small-cell lung cancer. NICE technology appraisal guidance [ID3949] Publication expected 2025 **Related NICE guidelines:** Lung cancer: diagnosis and management (NG122) **Related quality standards:** Lung cancer in adults (2019) NICE quality standard 17

Questions for consultation

Where do you consider tislelizumab will fit into the existing care pathway for untreated advanced NSCLC?

Are the subgroups listed in the draft scope appropriate, are any subgroups missing?

Are the comparators listed in the draft scope appropriate? Are any treatment options for people with advanced NSCLC missing?

If tislelizumab was recommended, would it displace any of the following in NHS clinical practice: entrectinib, crizotinib, dabrafenib plus trametinib, or tepotinib?

Would tislelizumab be a candidate for managed access?

How would the two slightly different interventions be modelled for the different populations (non-squamous and squamous) and would this require two economic models or engines?

Do you consider that the use of tislelizumab can result in any potential 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 committee to take account of these benefits.

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 tislelizumab 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.

NICE intends to evaluate this technology through its Single Technology Appraisal process. (Information on NICE's health technology evaluation processes is available at https://www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/nice-technology-appraisal-guidance/changes-to-health-technology-evaluation).

Is this technology suitable to with through NICE's cost-comparison process? Please provide details.

References

1. NHS Digital. Cancer registration statistics, England, 2022 [accessed November 2024]
2. Royal College of Surgeons of England (2024). National Lung Cancer Audit: State of the Nation Report 2024 Version 2. [Accessed December 2024]
3. Cancer Research UK Survival for lung cancer [accessed November 2024]
4. Skov, B., Rørvig, S., Jensen, T. et al. (2020) The prevalence of programmed death ligand-1 (PD-L1) expression in non-small cell lung cancer in an unselected, consecutive population. Mod Pathol 33, 109–117
5. Han Y, Liu D, Li L. PD-1/PD-L1 pathway: current researches in cancer. Am J Cancer Res. 2020 Mar 1;10(3):727-742. PMID: 32266087; PMCID: PMC7136921.