

# NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

## Health Technology Appraisal

### Lisocabtagene maraleucel for treating large B-cell lymphoma after at least 2 therapies

#### Draft scope

#### Draft remit/appraisal objective

To appraise the clinical and cost effectiveness of lisocabtagene maraleucel within its marketing authorisation for treating large B-cell lymphoma after at least 2 therapies.

#### Background

Lymphomas are cancers of the lymphatic system, which is a part of the immune system. Lymphomas are divided into Hodgkin lymphoma and non-Hodgkin lymphoma. Non-Hodgkin lymphomas (NHL) are a diverse group of conditions which are categorised according to the cell type affected (B-cell or T-cell), as well as the clinical features and rate of progression of the disease. The classification of NHL subtypes is evolving rapidly. According to the 2016 WHO criteria<sup>1</sup>, large B-cell lymphomas include.

- Diffuse large B-cell lymphoma (DLBCL) – this is a fast growing, high grade form of NHL. DLBCL can occur as a primary tumour (de novo) or when another indolent lymphoma type transforms to acquired high grade DLBCL features (for example, transformed follicular lymphoma or chronic lymphocytic leukaemia following Richter's transformation)
- Primary mediastinal large B-cell lymphoma (PMBCL) – this is a rare type of high grade NHL which develops in the mediastinum. PMBCL has previously been categorised as a subtype of DLBCL but is now recognised as biologically distinct.
- Follicular lymphoma grade 3b – this is regarded as high grade and is often treated like DLBCL.

In clinical practice, DLBCL (de novo or transformed), PMBCL and follicular lymphoma 3b are often treated similarly. The symptoms differ depending on which organ or tissues are affected by the lymphoma. NHL often presents as painless lumps (enlarged lymph nodes) in the neck, armpit or groin but sometimes may start in other parts of the body such as the stomach or bowel (extranodal disease). People may also have loss of appetite, tiredness or night sweats.

There were around 12,000 people diagnosed with of non-Hodgkin lymphoma (NHL) in England in 2017<sup>2</sup>. Data collected in England between 2010 and 2016 reported by the Haematological Malignancy Research Network (HMRN) indicates that the annual incidence of DLBCL is 8.5 per 100,000 (5,520

expected new cases per year)<sup>3</sup>. Most people diagnosed with DLBCL are 65 or over<sup>4</sup>. Survival rates at 5 years for DLBCL are around 65-70% for stage I and II and around 50% at stages III and IV.<sup>4,5</sup>

The most widely used first-line treatment for DLBCL is R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine and prednisolone). Sometimes etoposide is added to this regimen. NICE guideline NG52 recommends consolidation radiotherapy for people with advanced-stage DLBCL that has responded to first-line immunochemotherapy, and central nervous system-directed prophylactic therapy for people with risk factors. NG52 also recommends offering salvage therapy with multi-agent immunochemotherapy to people with relapsed or refractory disease followed by stem cell transplantation. If stem cell transplantation is not suitable, further chemotherapy or immunotherapy may be used alone. NICE technology appraisal 306 recommends pixantrone monotherapy for people who have multiply relapsed or refractory aggressive non-Hodgkin B-cell lymphoma, when they have received previous treatment with rituximab and are in the third or fourth line of treatment. NICE technology appraisal 559 (TA559) recommends axicabtagene ciloleucel therapy for use within the Cancer Drugs Fund as an option for treating relapsed or refractory DLBCL or PMBCL in adults after 2 or more systemic therapies and NICE technology appraisal 567 (TA567) recommends tisagenlecleucel therapy for use within the Cancer Drugs Fund as an option for treating relapsed or refractory DLBCL in adults after 2 or more systemic therapies. In both TA559 and TA567, these therapies are only recommended if the conditions in the managed access agreement are followed.

### The technology

Lisocabtagene maraleucel (Liso-cell, Celgene) is a chimeric antigen receptor (CAR) T-cell therapy that uses the patient's own healthy T-cells to fight the cancer by changing the patient's T-cells to target a protein called CD19. When lisocabtagene maraleucel binds to CD-19 expressing cells, the T-cell is activated to destroy the target cancer cell. It is administered as an intravenous infusion once only.

Lisocabtagene maraleucel does not currently have a marketing authorisation in the UK for treating DLBCL. It is being studied in a single arm trial in people with relapsed or refractory DLBCL or with other aggressive B-Cell malignancies.

<b>Intervention(s)</b>	Lisocabtagene maraleucel
<b>Population(s)</b>	People with relapsed or refractory large B-cell lymphoma who have had at least 2 previous treatments

<b>Comparators</b>	<p>Established clinical management without lisocabtagene maraleucel including but not limited to:</p> <ul style="list-style-type: none"> <li>• pixantrone monotherapy</li> <li>• salvage chemotherapy with rituximab-based combination regimens (for example rituximab, ifosfamide, carboplatin, etoposide (R-ICE); rituximab, cisplatin, cytarabine, dexamethasone (R-DHAP); rituximab, cisplatin, gemcitabine, dexamethasone (R-GDP); rituximab, ifosfamide, epirubicin and etoposide (R-IVE)</li> <li>• Best supportive care</li> </ul>
<b>Outcomes</b>	<p>The outcome measures to be considered include:</p> <ul style="list-style-type: none"> <li>• overall survival</li> <li>• progression free survival</li> <li>• response rate</li> <li>• adverse effects of treatment</li> <li>• health-related quality of life.</li> </ul>
<b>Economic analysis</b>	<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>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.</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><b>Other considerations</b></p>	<p>The availability and cost of biosimilar products should be taken into account.</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, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.</p>
<p><b>Related NICE recommendations and NICE Pathways</b></p>	<p>Related Technology Appraisals:</p> <p><a href="#">Axicabtagene ciloleucel for treating diffuse large B-cell lymphoma and primary mediastinal large B-cell lymphoma after 2 or more systemic therapies</a> (2019) NICE technology appraisal guidance 559. Review date February 2022</p> <p><a href="#">Tisagenlecleucel for treating relapsed or refractory diffuse large B-cell lymphoma after 2 or more systemic therapies</a> (2019) NICE technology appraisal guidance 567. Review date 2023</p> <p><a href="#">Pixantrone monotherapy for treating multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma</a> (2014) NICE technology appraisal guidance 306. Review date to be confirmed</p> <p><a href="#">Rituximab for the treatment of relapsed or refractory stage III or IV follicular non-Hodgkin's lymphoma</a> (2008) NICE technology appraisal guidance 137. Last reviewed March 2011. Next review date to be confirmed</p> <p>Appraisals in development (including suspended appraisals)</p> <p><a href="#">Polatuzumab vedotin with rituximab and bendamustine for treating relapsed or refractory diffuse large B-cell lymphoma</a> [ID1576] NICE technology appraisal guidance. Publication date to be confirmed</p> <p>Related Guidelines:</p> <p><a href="#">‘Non-Hodgkin’s lymphoma: diagnosis and management’</a> (2016) NICE Guideline 52. Review date to be confirmed.</p> <p><a href="#">‘Haematological cancers: improving outcomes’</a> (2016). NICE Guideline 47. Review date to be confirmed.</p> <p><a href="#">Non-Hodgkin's lymphoma: rituximab subcutaneous injection</a> (2014) NICE evidence summary of new medicines 46.</p>

	<p>Related Quality Standards:</p> <p><a href="#">Haematological cancers</a> (2017) NICE quality standard 150.</p> <p>Related NICE Pathways:</p> <p><a href="#">Blood and bone marrow cancers</a> (2016) NICE pathway</p>
<b>Related National Policy</b>	<p>NHS England (2018) <a href="#">Manual for prescribed specialised services 2018/19</a> Chapter 29 - Blood and marrow transplantation services (adults and children)</p> <p>NHS England (2013) <a href="#">NHS standard contract for cancer: Chemotherapy (Adult) Section B part 1 Service specifications</a>. Clinical Commissioning Policy. Reference B15/S/a.</p>

### Questions for consultation

Is the population listed in the scope appropriate? Are there any types of large B-cell lymphoma that would not be considered for this treatment?

Are the stated comparators appropriate?

What are the most commonly used combination regimens in NHS clinical practice for treating relapsed or refractory large B cell following two previous treatments that would be suitable comparators for lisocabtagene maraleucel?

Is best supportive care a relevant comparator for lisocabtagene maraleucel?

Are the outcomes listed appropriate?

Are there any subgroups of people in whom lisocabtagene maraleucel is expected to be more clinically effective and cost effective or other groups that should be examined separately? For example, is the clinical or cost effectiveness of lisocabtagene maraleucel likely to vary according to whether:

- patients did or did not respond (partially or fully) to induction therapy?
- patients have or have not previously received stem cell transplantation?

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 lisocabtagene maraleucel will be 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 lisocabtagene maraleucel 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 lisocabtagene maraleucel 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.

To help NICE prioritise topics for additional adoption support, do you consider that there will be any barriers to adoption of this technology into practice? If yes, please describe briefly.

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. Swerdlow SH, Campo E, Pileri SA, Harris NL, Stein H, Siebert R, Advani R, Ghielmini M, Salles GA, Zelenetz AD, Jaffe ES. The 2016 revision of the World Health Organization classification of lymphoid neoplasms. *Blood*. 2016 May 19;127(20):2375-90.
2. Office of National Statistics (2018) [Cancer Registration Statistics, England: first release, 2017](#). Accessed May 2019.
3. [Haematological Malignancy Research Network](#). Diffuse large B cell lymphoma incidence statistics. Accessed May 2019.
4. [Diffuse B-cell lymphoma](#). Lymphoma association. Accessed May 2019.

5. [Cancer Research UK](#) (data collected in one area of England between 2004 and 2011). Accessed May 2019.