NICE National Institute for Health and Care Excellence

NICE Pathways

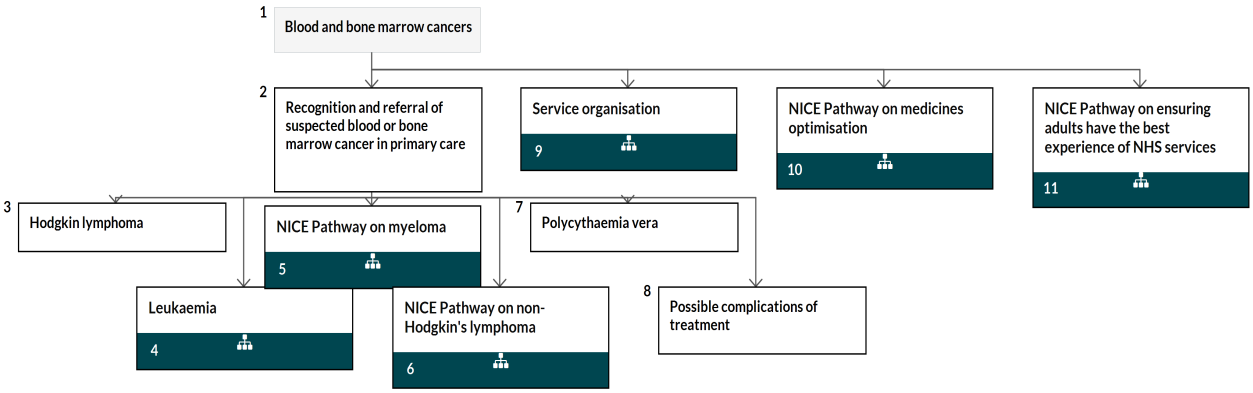
Blood and bone marrow cancers overview

NICE Pathways bring together everything NICE says on a topic in an interactive flowchart. NICE Pathways are interactive and designed to be used online.

They are updated regularly as new NICE guidance is published. To view the latest version of this NICE Pathway see:

http://pathways.nice.org.uk/pathways/blood-and-bone-marrow-cancers
NICE Pathway last updated: 09 December 2020

This document contains a single flowchart and uses numbering to link the boxes to the associated recommendations.



1 Blood and bone marrow cancers

No additional information

2 Recognition and referral of suspected blood or bone marrow cancer in primary care

See the NICE Pathway on suspected cancer: recognition and referral for information on:

- when to suspect haematological cancers in primary care
- referral for further investigation or assessment.

3 Hodgkin lymphoma

A table of NHS England interim treatment regimens gives possible alternative treatment options for use during the COVID-19 pandemic to reduce infection risk. This may affect decisions for people with cancer. See the COVID-19 rapid guideline: delivery of systemic anticancer treatments for more details.

Brentuximab vedotin for treating CD30-positive Hodgkin lymphoma in adults with relapsed or refractory disease

The following recommendations are from NICE technology appraisal guidance on brentuximab vedotin for treating CD30-positive Hodgkin lymphoma (CDF review of TA446).

Brentuximab vedotin is recommended as an option for treating CD30-positive Hodgkin lymphoma in adults with relapsed or refractory disease, only if:

- they have already had autologous stem cell transplant or
- they have already had at least 2 previous therapies when autologous stem cell transplant or multi-agent chemotherapy are not suitable and
- the company provides brentuximab vedotin according to the commercial agreement.

These recommendations are not intended to affect treatment with brentuximab vedotin that was started in the NHS before this guidance was published. People having treatment outside these recommendations may continue without change to the funding arrangements in place for them before this guidance was published, until they and their NHS clinician consider it appropriate to stop.

See why we made the recommendations on brentuximab vedotin [See page 8].

NICE has written information for the public on brentuximab vedotin.

Nivolumab

The following recommendation is from NICE technology appraisal guidance on nivolumab for treating relapsed or refractory classical Hodgkin lymphoma.

Nivolumab is recommended, within its marketing authorisation, as an option for treating relapsed or refractory classical Hodgkin lymphoma in adults after autologous stem cell transplant and treatment with brentuximab vedotin, when the company provides nivolumab according to the commercial arrangement.

NICE has written information for the public on nivolumab.

Pembrolizumab

The following recommendations are from NICE technology appraisal guidance on pembrolizumab for treating relapsed or refractory classical Hodgkin lymphoma.

Pembrolizumab is not recommended for treating relapsed or refractory classical Hodgkin lymphoma in adults who have had autologous stem cell transplant and brentuximab vedotin.

Pembrolizumab is recommended for use within the Cancer Drugs Fund as an option for treating relapsed or refractory classical Hodgkin lymphoma in adults who have had brentuximab vedotin and cannot have autologous stem cell transplant, only if:

- pembrolizumab is stopped after 2 years of treatment or earlier if the person has a stem cell transplant or the disease progresses and
- the conditions in the managed access agreement for pembrolizumab are followed.

These recommendations are not intended to affect treatment with pembrolizumab that was started in the NHS before this guidance was published. People having treatment outside these recommendations may continue without change to the funding arrangements in place for them before this guidance was published, until they and their NHS clinician consider it appropriate to stop.

See why we made the recommendations on pembrolizumab [See page 7].

NICE has written information for the public on pembrolizumab.

Brentuximab vedotin for untreated advanced Hodgkin lymphoma

The NICE technology appraisal of brentuximab vedotin for untreated advanced Hodgkin lymphoma was terminated because Takeda did not provide an evidence submission. The company has confirmed that it does not intend to make a submission for the appraisal because it considers that, at this time, there is insufficient evidence to provide a UK submission for this appraisal. The company has confirmed that it does not intend to make a submission for the appraisal until data from a key study in this indication are available in June 2021. Therefore NICE **was unable to make a recommendation** about the use of this technology in the NHS.

4 Leukaemia

See Blood and bone marrow cancers / Leukaemia

5 NICE Pathway on myeloma

See Myeloma

6 NICE Pathway on non-Hodgkin's lymphoma

See Non-Hodgkin's lymphoma

7 Polycythaemia vera

Ruxolitinib

The appraisal of ruxolitinib for treating polycythaemia vera was terminated because no evidence submission was received from Novartis Pharmaceuticals for the technology. Therefore NICE is unable to make a recommendation about the use in the NHS of ruxolitinib for treating polycythaemia vera.

8 Possible complications of treatment

See the NICE Pathways on anaemia and neutropenic sepsis for possible complications in people having anticancer treatment.

Laser therapy for oral mucositis

NICE has published interventional procedures guidance on low-level laser therapy for preventing or treating oral mucositis caused by radiotherapy or chemotherapy with **standard arrangements** for clinical governance, consent and audit.

9 Service organisation

See Blood and bone marrow cancers / Service organisation for blood and bone marrow cancers

10 NICE Pathway on medicines optimisation

See Medicines optimisation

11 NICE Pathway on ensuring adults have the best experience of NHS services

See Patient experience in adult NHS services

Rationale: pembrolizumab

The marketing authorisation for pembrolizumab includes 2 subpopulations of people with relapsed or refractory classical Hodgkin lymphoma: people who have had brentuximab vedotin and autologous stem cell transplant and those who have had brentuximab vedotin but cannot have autologous stem cell transplant.

There is no evidence directly comparing pembrolizumab with current standard care in either of the subpopulations. Indirect analyses suggest that having pembrolizumab after brentuximab vedotin may lead to longer progression-free survival than current treatment. This would increase the number of people who can have curative allogeneic stem cell transplant. It is uncertain how many people having pembrolizumab will be able to have allogeneic stem cell transplant and their long-term outcomes compared with those having standard care and this is a key driver of cost effectiveness.

NICE recommends nivolumab for treating relapsed or refractory classical Hodgkin lymphoma in adults after autologous stem cell transplant and brentuximab vedotin. The committee heard from clinical experts that the clinical effectiveness of pembrolizumab and nivolumab are likely to be similar in this population. The company did not provide a cost-comparison between pembrolizumab and nivolumab and so the committee based its decision on the cost effectiveness of pembrolizumab compared with standard care before the introduction of nivolumab.

Pembrolizumab meets NICE's criteria to be considered a life-extending treatment at the end of life.

Because of uncertainties in the clinical effectiveness and the modelling, the cost-effectiveness estimates are uncertain. Because of this, pembrolizumab cannot be recommended for routine use in the NHS.

There is an unmet treatment need for people who have had brentuximab vedotin and cannot have autologous stem cell transplant. There are no licensed immunotherapies for this subpopulation. Pembrolizumab has plausible potential to be cost effective for people who cannot have autologous stem cell transplant. Further data collection may reduce the uncertainty about the cost effectiveness. Therefore pembrolizumab is recommended for use in the Cancer Drugs Fund for people who have classical Hodgkin lymphoma that has relapsed after, or not responded to, brentuximab vedotin and who cannot have autologous stem cell transplant.

For more information see the committee discussion in the NICE technology appraisal guidance on pembrolizumab for treating relapsed or refractory classical Hodgkin lymphoma.

Rationale: brentuximab vedotin

NICE technology appraisal guidance 446

Hodgkin lymphoma is usually treated with chemotherapy, followed by stem cell transplant. Stem cell transplant gives people the best chance of a cure, so people who cannot have stem cell transplant have a high clinical unmet need. Brentuximab vedotin can be used as a 'bridging' treatment before stem cell transplant and, in some cases, as a curative treatment itself.

NICE technology appraisal guidance 446 recommended brentuximab vedotin as an option for treating adults with relapsed or refractory CD30-positive Hodgkin lymphoma after autologous stem cell transplant. However, it was not recommended for adults who are at increased risk of disease relapse or progression after autologous stem cell transplant because the cost-effectiveness estimates were too high.

For adults with relapsed or refractory disease after at least 2 previous therapies, when autologous stem cell transplant or multi-agent chemotherapy is not suitable, the cost-effectiveness evidence was less clear. So brentuximab vedotin was recommended for use within the Cancer Drugs Fund in this population to collect data on its effectiveness in practice.

Cancer Drugs Fund Review of technology appraisal guidance 446

In this Cancer Drugs Fund review of technology appraisal guidance 446, data collected through the Cancer Drugs Fund on rates of stem cell transplant after treatment with brentuximab vedotin show that it improved rates of stem cell transplant compared with chemotherapy. Also, the updated cost-effectiveness estimates for brentuximab vedotin are lower than £20,000 per quality-adjusted life year gained. Because of this, brentuximab vedotin is recommended as an option for treating relapsed or refractory CD30-positive Hodgkin lymphoma in adults, only if they have already had autologous stem cell transplant, or at least 2 previous therapies when autologous stem cell transplant or multi-agent chemotherapy are not suitable.

For more information see the committee discussion in the NICE technology appraisal guidance on brentuximab vedotin for treating CD30-positive Hodgkin lymphoma (CDF review of TA446).

Sources

Pembrolizumab for treating relapsed or refractory classical Hodgkin lymphoma (2018) NICE technology appraisal guidance 540

Brentuximab vedotin for treating CD30-positive Hodgkin lymphoma (CDF review of TA446) (2018) NICE technology appraisal guidance 524

Nivolumab for treating relapsed or refractory classical Hodgkin lymphoma (2017) NICE technology appraisal guidance 462

Your responsibility

Guidelines

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Technology appraisals

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take these recommendations fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this interactive flowchart is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Commissioners and/or providers have a responsibility to provide the funding required to enable the recommendations to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Medical technologies guidance, diagnostics guidance and interventional procedures guidance

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take these recommendations fully into account. However, the interactive flowchart does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the recommendations, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this interactive flowchart should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.