NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Daratumumab with bortezomib, lenalidomide and dexamethasone for untreated multiple myeloma when an autologous stem cell transplant is suitable

Final scope

Remit/evaluation objective

To appraise the clinical and cost effectiveness of daratumumab with bortezomib, lenalidomide and dexamethasone within its marketing authorisation for untreated multiple myeloma when high-dose chemotherapy and autologous stem cell transplant are suitable.

Background

Multiple myeloma is a form of cancer that arises from plasma cells (a type of white blood cell) in the bone marrow. Myeloma cells suppress the development of normal blood cells that are responsible for fighting infection (white blood cells), carrying oxygen around the body (red blood cells) and blood clotting (platelets). The term multiple myeloma refers to the presence of more than one site of affected bone at the time of diagnosis. People with multiple myeloma can experience bone pain, bone fractures, tiredness (as a result of anaemia), infections, hypercalcaemia (too much calcium in the blood) and kidney problems.

There were almost 5,000 newly diagnosed cases of multiple myeloma in England in 2021, mostly in people aged 65 years and over.[1] Multiple myeloma is more common in men than in women and the incidence is also reported to be higher in people of African family origin.[2] The 5-year survival rate for adults with multiple myeloma in England and Wales is about 56%.[3]

Multiple myeloma is an incurable disease. Therapy aims to prolong survival and maintain a good quality of life by controlling the disease and relieving symptoms. High-dose chemotherapy with autologous stem-cell transplantation may be an option for some people with multiple myeloma in good general health.

- NICE technology appraisal 311 recommends induction therapy with bortezomib in combination with either dexamethasone or dexamethasone and thalidomide, before high-dose chemotherapy and autologous stem cell transplantation and

- NICE technology appraisal 763 recommends daratumumab in combination with bortezomib, thalidomide and dexamethasone for untreated multiple myeloma in adults, when an autologous stem cell transplant is suitable.

- NICE technology appraisal 680 recommends lenalidomide as maintenance treatment after an autologous stem cell transplant for newly diagnosed multiple myeloma in adults.

The technology

Daratumumab (Darzalex, Janssen) with bortezomib, lenalidomide and dexamethasone has a marketing authorisation for its formulation for subcutaneous injection for adults with newly diagnosed multiple myeloma who are eligible for autologous stem cell transplant. Its marketing authorisation covers its use for induction, consolidation and maintenance phases of treatment. The regulatory trial assessed daratumumab in combination with bortezomib, lenalidomide and dexamethasone for induction and consolidation and in combination with lenalidomide for maintenance.

Daratumumab in combination with bortezomib, thalidomide and dexamethasone has a marketing authorisation for the treatment of adults with newly diagnosed multiple myeloma who are eligible for autologous stem cell transplant. Daratumumab with bortezomib, lenalidomide and dexamethasone for untreated multiple myeloma when a stem cell transplant is unsuitable is a related technology appraisal in development.

Intervention(s)	Daratumumab in combination with bortezomib, lenalidomide and dexamethasone for induction and consolidation treatment, followed by daratumumab plus lenalidomide for maintenance treatment
Population(s)	Adults with newly diagnosed multiple myeloma who are eligible for high-dose chemotherapy with autologous stem cell transplant
Comparators	For induction/consolidation: • Bortezomib with dexamethasone or with dexamethasone and thalidomide • Bortezomib with cyclophosphamide and dexamethasone (off-label) • Daratumumab with bortezomib, thalidomide and dexamethasone For maintenance: • Lenalidomide

Outcomes	The outcome measures to be considered include: • overall survival • progression-free survival • response rates • minimal residual disease-negative status • proportion of people undergoing high dose chemotherapy and autologous stem cell transplantation • 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. The availability of any commercial arrangements for the intervention, comparator and subsequent treatment technologies 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:** Daratumumab in combination for untreated multiple myeloma when a stem cell transplant is suitable (2022) NICE technology appraisal guidance 763. Bortezomib for induction therapy in multiple myeloma before high-dose chemotherapy and autologous stem cell transplantation (2014) NICE technology appraisals guidance 311. Lenalidomide maintenance treatment after an autologous stem cell transplant for newly diagnosed multiple myeloma (2021) NICE technology appraisals guidance 680.

	Related technology appraisals in development Daratumumab with bortezomib, lenalidomide and dexamethasone for untreated multiple myeloma when a stem cell transplant is unsuitable is a related technology appraisal in development. NICE technology appraisal guidance [ID3843] Expected publication date TBC **Related NICE guidelines:** Myeloma: diagnosis and management of myeloma (2016). NICE guideline 35 Haematological cancers – improving outcomes (2016) NICE guideline 47 **Related quality standards:** Haematological cancers (2017) NICE quality standard 150
Related National Policy	The NHS Long Term Plan (2019) NHS Long Term Plan NHS England (2018) NHS manual for prescribed specialist services (2018/2019) Chapter 29 Haematopoietic stem cell transplantation services (adults and children) Department of Health and Social Care, NHS Outcomes Framework 2016-2017 (published 2016): Domains 1, 4, 5.

References

1. NHS Digital (2023) Cancer registration statistics, 2021. Accessed February 2025 'Cancer registration statistics, England, 2020'.[accessed February, 2025]

2. Cancer Research UK 'Myeloma'. [accessed, February 2025]

3. 3. NHS Digital (2023) Cancer Survival in England, cancers diagnosed 2016 to 2020, followed up to 2021. Accessed March 2024

4.

