NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Ruxolitinib for treating acute graft versus host disease refractory to corticosteroids in people aged 12 and over [ID6377]

Final scope

Final remit/evaluation objective

To appraise the clinical and cost effectiveness of ruxolitinib within its marketing authorisation for treating acute graft versus host disease refractory to corticosteroids in people aged 12 and over.

Background

Graft versus host disease (GvHD) occurs when donated T-cells attack the recipient's own cells.[1] GvHD is most commonly associated with allogeneic haematopoietic stem cell transplant (HSCT), but can develop after transplant of solid organs that are rich in lymphoid cells (such as the liver) in rare cases.[1] Differentiation of acute and chronic GvHD is based on the clinical features of disease.[1,2] Acute GvHD typically causes damage to the skin, gastrointestinal tract and liver, with symptoms including generalised patchy skin rash, sickness, weight loss, loss of appetite, diarrhoea, severe abdominal pain and jaundice.[3] Acute GvHD can be graded in severity from grade I (mild) through II (moderate), III (severe) to IV (very severe) according to the modified Seattle Glucksberg criteria.[3] The grade correlates to survival prognosis, with 5-year survival of 25% for grade III and 5% for grade IV disease.[3]

In 2022, there were 1,535 allogeneic stem cell transplants in the UK.[4] Up to 50% of people who have a HSCT from a human leukocyte antigen-matched sibling develop acute GvHD, and the risk is typically higher for unmatched donors.[1]

For first-line treatment, the European Society for Blood and Marrow Transplantation (EBMT) recommends topical corticosteroids for grade I acute GvHD and systemic corticosteroids for grade II to IV.[5] For acute GvHD that is refractory to steroids, the EBMT recommends ruxolitinib as standard care, although this is not available in the NHS in England. NHS England's clinical commissioning policy recommends extracorporeal photopheresis for steroid-refractory acute GvHD, or for people who have developed significant adverse effects to first-line treatments, or are steroid-dependent.[3] The policy also recommends combination therapy (including sirolimus and/or mycophenolate mofetil) as second-line treatment.[3]

The technology

Ruxolitinib (Jakavi, Novartis Pharmaceuticals UK Ltd) is indicated for the treatment of patients aged 12 years and older with acute graft versus host disease who have inadequate response to corticosteroids.

Intervention(s)	Ruxolitinib
Population(s)	People aged 12 years and older with acute graft versus host disease who have inadequate response to corticosteroids.
Comparators	Established clinical management without ruxolitinib, including but not limited to: • Extracorporeal photopheresis • Combination therapy with mammalian target of rapamycin inhibitors (for example, sirolimus) and/or mycophenolate mofetil
Outcomes	The outcome measures to be considered include: • response to treatment (including complete response and overall response) • mortality (including non-relapse mortality) • failure-free survival • 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** Belumosudil for treating chronic graft versus host disease after 2 or more lines of systemic therapy (2024) NICE technology appraisal guidance 924

Related National Policy	NHS England (2019) The NHS long term plan NHS England (2017) NHS Medicines for Children's Policy NHS England (2023) Prescribed specialised services manual (version 6) Chapter 29. Haematopoietic stem cell transplantation services (adults and children), Chapter 100. Severe combined immunodeficiency and related disorders service (children) NHS England (2019) Clinical Commissioning Policy: Allogeneic Haematopoietic Stem Cell Transplant for Primary Immunodeficiencies (all ages) NHS England Reference: 170129P NHS England (2017) Clinical Commissioning Policy: Treatments for Graft versus Host Disease (GvHD) following Haematopoietic Stem Cell Transplantation

References

1. Justiz Vaillant AA, Modi P, Mohammadi O. (2022) Graft-Versus-Host Disease. StatPearls. https://www.ncbi.nlm.nih.gov/books/NBK538235/

2. Malard F, Holler E, Sandmaier BM et al. (2023) Acute graft-versus-host disease. Nat Rev Dis Primers 9, 27.

3. NHS England (2017) Clinical Commissioning Policy: Treatments for Graft versus Host Disease (GvHD) following Haematopoietic Stem Cell Transplantation

4. British Society for Blood and Marrow Transplantation (2022) https://bsbmtct.org/activity/2022/

5. Penack O, Marchetti M, Aljurf M et al. (2024) Prophylaxis and management of graft-versus-host disease after stem-cell transplantation for haematological malignancies: updated consensus recommendations of the European Society for Blood and Marrow Transplantation. Lancet Haematol. 11(2):e147-e159.