NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Vadadustat for treating symptomatic anaemia in adults having dialysis for chronic kidney disease [ID3821]

Draft scope

Draft remit/evaluation objective

To appraise the clinical and cost effectiveness of vadadustat within its marketing authorisation for treating symptomatic anaemia in adults having dialysis for chronic kidney disease.

Background

Anaemia in chronic kidney disease (CKD) contributes significantly to the burden of CKD. It is defined as a state in which the quality or quantity of circulating red blood cells is below normal. A major cause of anaemia in CKD is a reduction in erythropoietin production because of kidney damage. Erythropoietin stimulates the bone marrow to produce red blood cells (erythropoiesis), and it is made by the kidney in response to low tissue oxygen levels. Other factors that can contribute to development of anaemia in CKD include blood loss (for example, from haemodialysis), a reduced ability to absorb and use iron to make new red blood cells, and inflammation and infection which can suppress the bone marrow[1]. Possible adverse effects of anaemia include reduced oxygen use, increased cardiac output, left ventricular hypertrophy, reduced cognition and concentration, reduced libido and reduced immune responsiveness[1].

Blood haemoglobin concentration is a key indicator for anaemia because it can be measured directly and has an international standard. NICE guideline 203 (NG203) recommends that clinicians consider investigating and managing anaemia in CKD if a patient's haemoglobin level falls to 110 g/litre or less (or 105 g/litre or less if the patient is younger than 2 years) or they develop symptoms of anaemia such as tiredness, shortness of breath, lethargy and palpitations.

CKD is divided into 5 stages defined by evidence of kidney damage, level of renal function as measured by GFR, and albumin to creatinine ratio. The prevalence of anaemia increases progressively with each CKD stage. The Health Survey for England (2016) found that 13% of adults (16 years and over) had CKD (stages 1 to 5). The prevalence of stage 3 to 5 CKD was 5% for all adults, rising to 34% in people aged 75 and over[2]. A cross-sectional study based on data from the Quality Improvement in Chronic Kidney Disease trial, which was conducted in 127 practices from localities across England (2013), reported that the prevalence of anaemia in people with CKD stage 3–5 is 8.6%[2,3].

Anaemia associated with CKD is potentially reversible with appropriate treatment such as erythropoiesis-stimulating agents (ESAs), iron therapy, or both, depending on the cause of the anaemia. NG203 recommends ESA therapy, for people who are likely to benefit in terms of quality of life and physical function. NG203 does not recommend any specific ESAs, but states that the choice of treatment should take

into consideration the patient's dialysis status, the route of administration and local availability of ESAs. ESA therapy should not be initiated in the presence of absolute iron deficiency without also managing the iron deficiency. In addition, iron therapy should be offered to people who are iron deficient and who are not on ESA therapy, before discussing ESA therapy. In some cases, resistance to ESAs can occur, where the management of the condition will be reviewed. Blood transfusions may be clinically indicated in some situations but are avoided where possible in people with anaemia of CKD in whom a kidney transplant is a treatment option.

The technology

Vadadustat (Vafseo, Akebia Therapeutics) has a marketing authorisation in the UK for the treatment of symptomatic anaemia associated with chronic kidney disease in adults on chronic maintenance dialysis.

Intervention	Vadadustat
Population(s)	Adults with symptomatic anaemia associated with chronic kidney disease on chronic maintenance dialysis
Subgroups	If the evidence allows subgroups according to previous exposure to erythropoiesis stimulating agents will be considered
Comparators	Erythropoiesis stimulating agents
Outcomes	The outcome measures to be considered include: • haemoglobin response • maintenance of haemoglobin levels • use of additional therapy (including blood transfusion and intravenous iron) • hospitalisation • mortality • adverse effects of treatment including major adverse cardiovascular events • 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:** Roxadustat for treating symptomatic anaemia in chronic kidney disease (2022) NICE technology appraisal guidance 807. **Related Technology Appraisals in development:** Daprodustat for treating anaemia in people with chronic kidney disease. NICE technology appraisal guidance [ID3987]. Suspended **Related NICE Guidelines:** Chronic kidney disease: assessment and management (update) (2021) NICE guideline 203. Renal replacement therapy and conservative management (2018) NICE guideline 107. **Related Quality Standards:** Chronic kidney disease in adults (2017) NICE quality standard 5.
Related National Policy	The NHS Long Term Plan, 2019. NHS Long Term Plan NHS England (2018/2019) NHS manual for prescribed specialist services (2018/2019) Chapter 15. Adult specialist renal services. Department of Health and Social Care, NHS Outcomes Framework 2016-2017: Domains 1 to 5.

	https://www.gov.uk/government/publications/nhs-outcomes-framework-2016-to-2017 National Service Frameworks Renal Services

Questions for consultation

Where do you consider vadadustat will fit into the existing care pathway for anaemia in chronic kidney disease?

Which ESAs are considered to be established clinical practice in the NHS for treating anaemia in people with CKD?

Is there a group of people who could be treated with vadadustat for whom ESA therapy is not suitable? If so, what treatments do these people currently have?

Would vadadustat be a candidate for managed access?

Do you consider that the use of vadadustat 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 vadadustat 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).

References

1 Kidney Research UK Anaemia and kidney disease. Accessed November 2023.

2 Health survey for England, 2016. Accessed November 2023

3 Dmitrieva O, de Lusignan S, Macdougall IC, et al. Association of anaemia in primary care patients with chronic kidney disease: cross sectional study of quality improvement in chronic kidney disease (QICKD) trial data. *BMC Nephrol*. 2013;14:24. Published 2013 Jan 25. doi:10.1186/1471-2369-14-24