NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Highly Specialised Technology Evaluation

Eculizumab for treating atypical haemolytic uraemic syndrome

Final scope

Remit/evaluation objective

To evaluate the benefits and costs of eculizumab within its licensed indication for the treatment of atypical haemolytic uraemic syndrome for national commissioning by NHS England.

Background

Atypical haemolytic uraemic syndrome (aHUS) is a chronic and rare disease that causes severe inflammation of blood vessels and the formation of blood clots, leading to organ damage in children and adults. In approximately 70% of people, aHUS is associated with an underlying genetic or acquired abnormality of proteins in the immune system called complement. There are currently around 140 people with a diagnosis of aHUS in England, but it is estimated that at least another 140 people may remain undiagnosed.

The prognosis for people with aHUS is poor, with early mortality rates ranging from 10% to 15%, and with the majority of people progressing to end stage renal failure. People with aHUS may experience a considerable impact on their daily living and quality of life and can experience significant kidney impairment, thrombosis, heart failure and brain injury.

Most people who develop aHUS for the first time are treated with daily plasma exchange. However, approximately 50% of people do not respond to treatment and develop permanent kidney failure, requiring treatment with long-term dialysis. Some people may have a kidney or combined kidney-liver transplantation; however there is a high risk of organ rejection following recurrent disease.

The technology

Eculizumab (Soliris, Alexion Pharma UK) is a monoclonal antibody to complement C5, which blocks pro-thrombotic and pro-inflammatory processes. Eculizumab is administered intravenously in adults as initial treatment for 4 weeks, then as maintenance treatment with a dose at week 5, then every 2 weeks. In children (under 18 years), dosage is dependent on body mass, with initial treatment administered for 1 to 4 weeks, then maintenance treatment given every 2 to 3 weeks.

Eculizumab has a UK marketing authorisation for the treatment of aHUS and paroxysmal nocturnal haemoglobinuria. It should be administered by a physician experienced in the management of people with haematological and/or renal disorders.

Intervention	Eculizumab
Population	Children and adults with atypical haemolytic uraemic syndrome (aHUS)
Comparators	<u>Newly diagnosed people who have not received prior treatment:</u> • plasma infusion and/or exchange <u>Previously treated people with kidney impairment:</u> • kidney dialysis • kidney or kidney/liver transplantation
Outcomes	The outcome measures to be considered include: • overall survival • time to disease recurrence • response to treatment • avoidance of dialysis • avoidance of plasma therapy • maintenance or improvement of kidney function • other major non-renal clinical outcomes • eligible for/success of transplantation • development of antibodies and resistance • adverse effects of treatment • health related quality of life (for patients and carers).
Nature of the condition	• disease morbidity and patient clinical disability with current standard of care • impact of the disease on carers' quality of life • extent and nature of current treatment options

Cost to the NHS and Personal Social Services (PSS), and Value for Money	• budget impact in the NHS and PSS, including patient access agreements (if applicable) • robustness of costing and budget impact information • technical efficiency (the incremental benefit of the new technology compared to current treatment) • productive efficiency (the nature and extent of the other resources needed to enable the new technology to be used) • allocative efficiency (the impact of the new technology on the budget available for specialised commissioning)
Impact of the technology beyond direct health benefits, and on the delivery of the specialised service	• whether there are significant benefits other than health • whether a substantial proportion of the costs (savings) or benefits are incurred outside of the NHS and personal and social services • the potential for long-term benefits to the NHS of research and innovation • staffing and infrastructure requirements, including training and planning for expertise.
Other considerations	Guidance will only be issued in accordance with the marketing authorisation.
Related NICE recommendations and NICE pathways	Related NICE Pathways: Chronic Kidney Disease pathway available at http://pathways.nice.org.uk/pathways/chronic-kidney-disease.
Related NHS England Policy	NHS England interim policy for the provision of eculizumab for people with atypical haemolytic uraemic syndrome.