NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Efgartigimod for treating generalised myasthenia gravis

Final scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of efgartigimod within its marketing authorisation for treating generalised myasthenia gravis.

Background

Myasthenia gravis is a long-term condition which causes certain muscles to become weak and tire easily. It is caused by a problem with the immune system, which mistakenly produces antibodies that block the chemical signals between nerves and muscles, meaning that muscles are unable to tighten (contract). The thymus gland is the main source of the abnormal antibodies. In around 10% of people these antibodies are not detected.[1] The muscles around the eyes are commonly affected first, which causes drooping of the eyelid and double vision. Muscles controlling facial expression, chewing, swallowing, speaking and, less commonly, breathing and neck and limb movements can also be affected. When muscle groups other than the eye muscles are affected, the condition is known as generalised myasthenia gravis. In very severe cases, muscle weakness causes life-threatening difficulties with breathing and swallowing. This is known as myasthenic crisis.

Myasthenia gravis affects about 15 in every 100,000 people in the UK.[2,3] It can develop at any age, but most commonly affects women under 40 and men over 60.[4] Around 80% of people with myasthenia gravis will progress to generalised myasthenia gravis within 2 years.[5]

Mild myasthenia gravis is usually treated with anticholinesterases (such as pyridostigmine or, less commonly, neostigmine) which delay the breakdown of acetylcholine, the chemical which stimulates muscle contraction. If treatment with anticholinesterases is not effective, or they are not suitable for long term use, then corticosteroid tablets such as prednisolone are used. Immunosuppressive therapies such as azathioprine are offered in addition to corticosteroids, with the aim of reducing the corticosteroid dose over time. If the disease does not respond to the first immunosuppressive treatment, alternative immunosuppressants may be offered (including mycophenolate mofetil, methotrexate, ciclosporin and rituximab). Eculizumab is also indicated for people whose disease does not respond to treatment and are anti-acetylcholine receptor antibody-positive. Surgery to remove the thymus gland may be an option for some people. Myasthenic crisis is treated in hospital with intravenous injections of antibodies (immunoglobulins) from healthy donor blood, or by removing plasma from the blood to reduce the number of abnormal antibodies (known as plasmapheresis or plasma exchange).

The technology

Efgartigimod (Vyvgart, argenx) does not currently have a marketing authorisation in Great Britain for treating generalised myasthenia gravis. It has been studied in clinical trials compared with placebo in adults with generalised myasthenia gravis.

Intervention(s)	Efgartigimod
Population(s)	Adults with generalised myasthenia gravis who are anti-acetylcholine receptor antibody positive
Comparators	Established clinical management without efgartigimod including corticosteroids and immunosuppressive therapies, with or without intravenous immunoglobulin or plasma exchange
Outcomes	The outcome measures to be considered include: • improvement in myasthenia gravis • time to clinically meaningful improvement • mortality • hospitalisations • 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.
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 in development:** Ravulizumab for treating generalised myasthenia gravis. NICE technology appraisal guidance [ID4019]. Publication expected July 2023. **Related NICE guidelines:** Suspected neurological conditions: recognition and referral (2019). NICE guideline 127. **Related quality standards:**

	Suspected neurological conditions: recognition and referral (2021). NICE quality standard 198
Related National Policy	NHS England (2018) Clinical Commissioning Policy: Rituximab bio-similar for the treatment of myasthenia gravis (adults). 170084P NHS England (2014/15) NHS Standard Contract for Neuromuscular Operational Delivery Network Specification. D04/ODN/a. NHS England (2013/14) NHS Standard Contract for Neurosciences: Specialised Neurology (Adult). D04/S/a. NHS England (2013/14) NHS Standard Contract for Diagnostic Service for Rare Neuromuscular Disorders (All ages). D04/S(HSS)/a. NHS England (2018) Updated Commissioning Guidance for the use of therapeutic immunoglobulin (Ig) in immunology, haematology, neurology and infectious diseases in England The NHS Long Term Plan, 2019. NHS Long Term Plan NHS England (2018/2019) NHS manual for prescribed specialist services (2018/2019) Department of Health and Social Care, NHS Outcomes Framework 2016-2017: Domains 1 and 2 https://www.gov.uk/government/publications/nhs-outcomes-framework-2016-to-2017

References

1. Leite M, Jacob S, Viegas S et al. (2008) IgG1 antibodies to acetylcholine receptors in 'seronegative' myasthenia gravis. Brain 131:1940-52.

2. Patient, Myasthenia gravis. 2017. Accessed November 2021.

3. Muscular Dystrophy UK. Myasthenia gravis Overview. 2011. Accessed November 2021.

4. National Health Service (NHS). Myasthenia gravis overview. 2020. Accessed November 2021.

5. National Institute for Health Research. Health Technology Briefing Efgartigimod for treating generalised myasthenia gravis. 2021. Accessed May 2022