NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Health Technology Appraisal

Natalizumab for the treatment of multiple sclerosis

Draft scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of natalizumab in its licensed indications for the treatment of multiple sclerosis.

Background

Multiple sclerosis (MS) is a chronic disabling neurological disease. It occurs when the body's immune system attacks myelin, a protective sheath around nerve fibres in the brain and spinal cord, which ensures nerves transmit electrical impulses efficiently. Damage to myelin causes nerve impulses to be slowed or distorted. In addition to myelin loss, there can be damage to the actual nerve fibres, resulting in an accumulation of disability with time.

MS has an unpredictable course with a variable severity and progression rate. Symptoms include weakness, chronic fatigue, unsteady gait, speech problems and incontinence. Relapses may require hospitalisation, and be associated with significant disability and incapacity, and have a highly debilitating impact on quality of life.

Three main clinical forms of MS are defined, based on the pattern of the disease. In relapsing remitting MS (RRMS) periods of remission are followed by relapses (this affects 80% of people at disease onset). A proportion of these people develop secondary progressive MS during the first 10 years of their illness, where there are gradually more or worsening symptoms with fewer remissions. Primary progressive MS is where the disease progresses inexorably from onset (affecting 10 to 15% of people at disease onset).

It is estimated that between 52,000 and 62,000 people in England and Wales have MS. The annual incidence is estimated to be 3 to 7 per 100,000 and it is the most common cause of neurological disability in the young. MS usually begins in early adult life, and occurs in around twice as many women as men.

There are no curative therapies available for MS. Current pharmacological management includes the use of disease modifying agents (that is, the beta interferons and glatiramer acetate) targeted at reducing the frequency and/or severity of relapses and/or slowing the course of the disease. Current disease modifying treatments are supplied under a risk-sharing scheme, which has been designed to ensure that they are provided cost-effectively to the NHS. The symptoms of MS are also managed with non-pharmacological techniques such as physiotherapy, occupational therapy and speech therapy.

The technology

Natalizumab (Tysabri, Biogen Idec) is a novel disease modifying agent belonging to a new class of therapies called selective adhesion molecule inhibitors. It is thought to act by inhibiting the migration of leukocytes into the central nervous system, hence reducing inflammation and demyelination.

Natalizumab is licensed as single disease modifying therapy in highly active RRMS for the following patient groups: 1) patients with high disease activity despite treatment with a beta interferon, and 2) patients with rapidly evolving severe RRMS. Natalizumab is not licensed for use in combination with a beta interferon or glatiramer acetate.

Intervention	Natalizumab
Population	Adults with highly active RRMS who have: • high disease activity despite treatment with a beta interferon, or • rapidly evolving severe RRMS
Standard comparators	For adults with high disease activity despite treatment with a beta interferon: • standard care with no disease modifying treatment For adults with rapidly evolving severe RRMS: • standard care with no disease modifying treatment, or • treatment with a disease modifying treatment such as (high-dose) beta interferon
Outcomes	The outcome measures to be considered include: • relapse rate • disability progression • adverse effects of treatment • health-related quality of life • mortality

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 time horizon for the economic evaluation should reflect the chronic nature of the condition. Costs will be considered from an NHS and Personal Social Services perspective.
Other considerations	If the evidence allows, the appraisal will attempt to identify criteria for selecting patients for whom natalizumab would be particularly appropriate. The intervention will be appraised according to its marketing authorisation. Guidance will only be issued in accordance with the Summary of Product Characteristics. Arrangements within the risk-sharing scheme, which was agreed for the supply of disease modifying treatments for Multiple Sclerosis on the NHS (see Health Service Circular 2002/004), may be taken in consideration where these are relevant for the appraisal of natalizumab.
Related NICE recommendations	Related Technology Appraisals: Beta interferon and glatiramer acetate for the treatment of multiple sclerosis (2002). NICE Technology Appraisal Guidance No. 32. Related Guidelines: Management of multiple sclerosis in primary and secondary care (2003). NICE Clinical Guideline No. 8.

Questions for consultation

The Institute seeks advice from consultees as to whether it would be worthwhile comparing natalizumab with other disease modifying treatments in the treatment of adults with highly active RRMS in both categories of the population; high disease activity despite treatment with a beta interferon and rapidly evolving severe RRMS.